

**DEPARTMENT OF ENERGY****Office of Energy Efficiency and Renewable Energy****10 CFR Parts 430 and 431****[Docket No. EE-RM/TP-05-500]****RIN 1904-AB53****Energy Conservation Program: Test Procedures for Certain Consumer Products and Certain Commercial and Industrial Equipment; Technical Amendment to Energy Conservation Standards for Certain Consumer Products and Certain Commercial and Industrial Equipment****AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.**ACTION:** Final rule.

**SUMMARY:** The Energy Policy Act of 2005 (EPACT 2005) includes amendments to the Energy Policy and Conservation Act (EPCA) to provide for new Federal energy efficiency and water conservation test procedures, and related definitions, for certain consumer products and certain commercial and industrial equipment. The amendments direct the Department of Energy (DOE) to establish new test procedures for many of these products and certain equipment, in most cases EPACT 2005 requires the new test procedures to be “based on” certain identified testing practices generally accepted by industry and other government agencies. Today, DOE adopts test procedures for eleven types of products for which EPACT 2005 identified specific test procedures on which the federally-mandated test procedures are to be based. In addition, DOE adopts test procedures for three other products for which EPACT 2005 did not specify specific test procedures, and for which test procedures have not previously been established. Furthermore, DOE is adopting a new version of the current test procedure for small commercial package air-conditioning and heating equipment, which will not change the existing requirements.

DOE is also adopting technical corrections to the October 18, 2005, final rule, 70 FR 60407, which DOE described in detail in the July 25, 2006, notice of proposed rulemaking in this proceeding (July 2006 proposed rule), 71 FR 42178, 42195-96. However, DOE is not finalizing the procedures for sampling during compliance testing, and compliance certification and enforcement that were included in the July 2006 proposed rule. Such

procedures will be addressed in a subsequent final rule.

**DATES:** *Effective Date:* This final rule is effective January 8, 2007. The incorporation by reference of certain publications in the final rule is approved by the Director of the Federal Register as of January 8, 2007.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:** The following standards are incorporated by reference: Environmental Protection Agency (EPA), “ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans,” Version 1.1, December 9, 2002; U.S. Department of Energy (DOE) “ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs,” Version 3.0; Environmental Protection Agency (EPA), “ENERGY STAR Program Requirements for Residential Light Fixtures,” Version 4.0; U.S. Department of Energy (DOE) “ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs,” August 9, 2001; Environmental Protection Agency (EPA), “ENERGY STAR Program Requirements for Dehumidifiers,” effective January 1, 2001; Air-Conditioning and Refrigeration Institute (ARI) Standard 810-2003, “Performance Rating of Automatic Commercial Ice-Makers;” American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 29-1988 (RA 2005), “Methods of Testing Automatic Ice Makers;” American Society for Testing and Materials (ASTM) Standard F2324-03, “Standard Test Method for Prerinse Spray Valves;” Environmental Protection Agency (EPA), “ENERGY STAR Program Requirements for Exit Signs,” Version 2.0; Environmental Protection Agency (EPA), “ENERGY STAR Program Requirements for Traffic Signals,” Version 1.1; Institute for Transportation Engineers (ITE), “Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement,” June 27, 2005;

American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 32.1-2004, “Methods of Testing for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages;” American National Standards Institute (ANSI)/Association of Home Appliance Manufacturers (AHAM) HRF-1-2004, “Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers,” (Revision of ANSI/AHAM HRF-1-2002); Air-Conditioning and Refrigeration Institute (ARI) Standard 340/360-2004, “Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment;” Air-Conditioning and Refrigeration Institute (ARI) Standard 1200-2006, “Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets;” American National Standards Institute (ANSI)/Association of Home Appliance Manufacturers (AHAM) HRF-1-2004, (Revision of ANSI/AHAM HRF-1-2002), “Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers;” Environmental Protection Agency (EPA), ENERGY STAR “Test Methodology for Determining the Energy Performance of Battery Charging Systems,” December 2005; and California Energy Commission (CEC) “Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies,” August 11, 2004.

**I. Background****II. Summary of Today’s Action****III. Discussion of Comments and Final Rule—Energy Conservation Test Procedures for Certain Consumer Products and Certain Commercial and Industrial Equipment****A. Ceiling Fans**

1. Highly Decorative Ceiling Fans
2. Hugger Ceiling Fans
3. Products Manufactured for Export
4. Burden Imposed by Test Procedure

**B. Ceiling Fan Light Kits**

1. Ceiling Fan Light Kits with Medium Screw Base Sockets
2. Ceiling Fan Light Kits with Pin-Based Sockets for Fluorescent Lamps
3. Ceiling Fan Light Kits with Sockets Other than Medium Screw Base or Pin-Based

**C. Dehumidifiers****D. Medium Base Compact Fluorescent Lamps****E. Torchieres**

1. Definition of a Torchiera
2. Design Standard
3. Enforcement of Design Standard

**F. Unit Heaters**

1. Definitions
2. Automatic Vent Dampers

**G. Automatic Commercial Ice Makers**

1. Test Procedure

- 2. Additional Product Classes
- H. Commercial Prerinse Spray Valves
  - 1. Performance Test
- I. Illuminated Exit Signs
- J. Traffic Signal Modules and Pedestrian Modules
  - 1. Definitions of Nominal and Maximum Wattage
  - 2. ITE VTCSH Test Procedure Version
  - 3. Pedestrian Modules
- K. Refrigerated Bottled or Canned Beverage Vending Machines
  - 1. ANSI/AHAM HRF–1–2004 Refrigerated Volume Calculation
  - 2. Voltage
- L. Commercial Package Air-Conditioning and Heating Equipment
- M. Commercial Refrigerators, Freezers, Refrigerator-Freezers and Ice-Cream Freezers
  - 1. Use of ARI Standard 1200–2006 Test Procedure for Equipment for which EPCA Prescribes Standards
  - 2. Use of ARI Standard 1200–2006 Test Procedure for which EPACT 2005 Directs DOE to Develop Test Procedures
  - 3. Ice-Cream Freezer Rating Temperature
  - 4. ANSI/AHAM Standard HRF–1
- N. Battery Chargers
  - 1. Scope of Coverage
  - 2. Modes of Test, including Active Mode
  - 3. Definitions
  - 4. Test Method
- O. External Power Supplies
  - 1. Scope of Test Procedure
  - 2. Power Factor
  - 3. Test Method
- P. General Comments and Final Rule
- IV. Corrections to the Recent Technical Amendment to DOE's Energy Conservation Standards

- V. Procedural Requirements
  - A. Review Under Executive Order 12866
  - B. Review Under the Regulatory Flexibility Act
  - C. Review Under the Paperwork Reduction Act of 1995
  - D. Review Under the National Environmental Policy Act of 1969
  - E. Review Under Executive Order 13132
  - F. Review Under Executive Order 12988
  - G. Review Under the Unfunded Mandates Reform Act of 1995
  - H. Review Under the Treasury and General Government Appropriations Act, 1999
  - I. Review Under Executive Order 12630
  - J. Review Under the Treasury and General Government Appropriations Act, 2001
  - K. Review Under Executive Order 13211
  - L. Review Under Section 32 of the Federal Energy Administration (FEA) Act of 1974
  - M. Congressional Notification
- VI. Approval of the Office of the Secretary

**I. Background**

The Energy Policy Act of 2005 (EPACT 2005) (Pub. L. 109–58) was enacted on August 8, 2005. Subtitle C of Title I of EPACT 2005 includes provisions that amend part B of Title III of the Energy Policy and Conservation Act (EPCA) (42 U.S.C. 6291–6309), which provides for an energy conservation program for consumer products other than automobiles, as well as part C of Title III of EPCA (42 U.S.C. 6311–6317), which provides for a program, similar to that in part B, for certain commercial and industrial equipment. EPACT 2005 prescribes new

or amended energy conservation standards and test procedures and directs DOE to undertake rulemakings to promulgate such requirements.

On October 18, 2005, DOE issued a final rule that placed into Title 10 of the Code of Federal Regulations (CFR) the energy conservation standards and related definitions that EPACT 2005 prescribed (hereafter referred to as the October 2005 final rule). 70 FR 60407. DOE also announced that it was not exercising the discretionary authority provided in EPACT 2005 for the Secretary of Energy (the Secretary) to revise product or equipment definitions and energy conservation standards set forth in the statute, but that it might exercise this authority later. *Id.*

In the July 2006 proposed rule, DOE proposed test procedures for measuring energy efficiency and water use efficiency and related definitions for various consumer products and commercial and industrial equipment covered by EPACT 2005's amendments to EPCA. Table 1 identifies most<sup>1</sup> of the products and equipment these amendments cover, and shows the ones for which DOE proposed to adopt test procedures, the sections of EPACT 2005 and EPCA that authorize and require these test procedures, and the sections in the CFR where DOE proposed to place them.

TABLE 1.—TEST PROCEDURES AND GENERAL REQUIREMENTS—AUTHORITY AND PLACEMENT

Product or equipment type	EPACT 2005 section	EPCA section	USC section	10 CFR section
Ceiling fans	135(b)(1)	323(b)(16)(A)(i)	42 U.S.C. 6293(b)(16)(A)(i).	430.23(w).
Ceiling fan light kits	135(b)(1)	323(b)(16)(A)(ii)	42 U.S.C. 6293(b)(16)(A)(ii).	430.23(x).
Dehumidifiers	135(b)(1)	323(b)(13)	42 U.S.C. 6293(b)(13)	430.23(z).
Medium base compact fluorescent lamps	135(b)(1)	323(b)(12)	42 U.S.C. 6293(b)(12)	430.23(y).
Battery chargers	135(c)(4)	325(u)	42 U.S.C. 6295(u)	430.23(aa).
External power supplies	135(c)(4)	325(u)	42 U.S.C. 6295(u)	430.23(bb).
Torchieres*	135(c)(4)	325(x)	42 U.S.C. 6295(x)	N/A.
Unit heaters**	135(c)(4)	325(aa)	42 U.S.C. 6295(aa)	Part 431, Subpart N.
Automatic commercial ice makers	136(f)(1)	343(a)(7)(A)	42 U.S.C. 6314(a)(7)(A)	Part 431, Subpart H.
Commercial prerinse spray valves	135(b)(1)	323(b)(14)	42 U.S.C. 6293(b)(14)	Part 431, Subpart O.
Illuminated exit signs	135(b)(1)	323(b)(9)	42 U.S.C. 6293(b)(9)	Part 431, Subpart L.
Traffic signal modules and pedestrian modules	135(b)(1)	323(b)(11)	42 U.S.C. 6293(b)(11)	Part 431, Subpart M.
Refrigerated bottled or canned beverage vending machines.	135(b)(1)	323(b)(15)	42 U.S.C. 6293(b)(15)	Part 431, Subpart Q.
Very large commercial package air-conditioning and heating equipment.	136(f)(1)	343(a)(4)	42 U.S.C. 6314(a)(4)	Part 431, Subpart F.
Commercial refrigerators, freezers, and refrigerator-freezers.	136(f)(1)	343(a)(6)	42 U.S.C. 6314(a)(6)	Part 431, Subpart C.

<sup>1</sup> EPACT 2005 specified test procedures, standards, and other amendments for a variety of consumer products and commercial equipment.

Table 1 includes those products for which EPACT 2005 specified particular test procedures or methods on which the test procedures to be

promulgated by DOE were to be based as well as certain products for which EPACT 2005 directed DOE to develop test procedures.

TABLE 1.—TEST PROCEDURES AND GENERAL REQUIREMENTS—AUTHORITY AND PLACEMENT—Continued

Product or equipment type	EPACT 2005 section	EPCA section	USC section	10 CFR section
Ice-cream freezers; commercial refrigerators, freezers, and refrigerator-freezers with a self-contained condensing unit and without doors; and commercial refrigerators, freezers, and refrigerator-freezers with a remote condensing unit.	136(f)(1)(B) .....	343(a)(6)(A)(i) .....	42 U.S.C. 6314(a)(6)(A)(i).	Part 431, Subpart C.

\* For torchieres, EPACT 2005 establishes a design standard, which does not require a test procedure.

\*\* DOE is adopting definitions and other general provisions for unit heaters.

## II. Summary of Today's Action

Today's final rule adopts test procedures for various consumer products and commercial and industrial equipment as required by sections 135 and 136 of EPACT 2005. Sections 135 and 136 of EPACT 2005 amended EPCA to require DOE to promulgate certain test procedures or identified certain test methods on which the DOE test procedures are to be based. These sections direct DOE to establish test procedures based on specifications of the Federal ENERGY STAR program and industry consensus standards that the statute identifies.<sup>2</sup> Each of these ENERGY STAR specifications and industry standards, however, contains not only energy test procedures, but also provisions that are irrelevant in determining the energy use, water use, or efficiency of the products to which they apply. DOE is adopting only those sections of the ENERGY STAR specifications and industry consensus standards that specify test procedures relevant to the measurement of energy efficiency or water consumption. DOE is incorporating these sections by reference into its rules in some cases with clarifying changes or additions that do not alter the substance of the test procedure. DOE is placing the test procedures and related definitions for consumer products in 10 CFR part 430 ("Energy Conservation Program for Consumer Products Other than Automobiles"), and the test procedures and definitions for commercial and industrial equipment in 10 CFR part 431 ("Certain Industrial Equipment").

In addition, DOE recently incorporated the energy conservation standards prescribed by EPACT 2005 into 10 CFR Parts 430 and 431. 70 FR 60407 (October 18, 2005). In the July

2006 proposed rule, DOE identified several provisions of these technical amendments that do not accurately reflect the provisions of EPACT 2005, and discussed the changes and clarifications needed to correct these inaccuracies. 71 FR 42195–96. The technical amendments as discussed in the July 2006 proposed rule are included in today's final rule. 71 FR 42196–97.

Finally, today's final rule does not include certification, compliance, and enforcement procedures for the consumer products and commercial and industrial equipment covered by this final rule. As discussed in the July 2006 proposed rule, DOE previously proposed certification, compliance, and enforcement provisions for commercial heating, air-conditioning and water heating products in a notice of proposed rulemaking published on December 13, 1999 (hereafter referred to as the "December 1999 proposed rule"). 64 FR 65959. That rulemaking is still pending, and DOE recently published a supplemental notice of proposed rulemaking that seeks comment on alternatives to certain aspects of those proposals (hereafter referred to as the April 2006 supplemental notice). 71 FR 25103. The certification, compliance, and enforcement procedures in the July 2006 proposed rule for the EPACT 2005 consumer products and commercial and industrial equipment were modeled after the December 1999 proposed rule and existing requirements for consumer products found in 10 CFR Part 430. In the July 2006 proposed rule and in the April 2006 supplemental notice, DOE discussed how it would decide to publish two final rules or a single final rule with the certification, compliance, and enforcement provisions for consumer products and commercial and industrial equipment. 71 FR 42193. DOE has reviewed the comments on the July 2006 proposed rule and April 2006 supplemental notice and has decided the issues are so interrelated that a single final rule is the more appropriate approach. However, due to the issues

raised, DOE believes it would be best to issue the final rule for certification, compliance, and enforcement provisions for consumer products and commercial and industrial equipment in a separate **Federal Register** notice. Therefore, today's final rule takes no action on any certification, compliance, and enforcement provisions for consumer products and commercial and industrial equipment, including those provisions that were proposed in the July 2006 proposed rule.

## III. Discussion of Comments and Final Rule—Energy Conservation Test Procedures for Certain Consumer Products and Certain Commercial and Industrial Equipment

### A. Ceiling Fans

Section 135(c)(4) of EPACT 2005 includes an amendment to section 325 of EPCA (42 U.S.C. 6295) to add subsection (v)(1), which includes requirements to develop a test procedure for ceiling fans. Further, amended section 323(b) of EPCA directs DOE to base this test procedure on the "ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans, Version 1.1" published by the Environmental Protection Agency (EPA). (42 U.S.C. 6293(b)(16)(A)(i)).

In the July 2006 proposed rule, DOE proposed to adopt this ENERGY STAR test procedure, along with additional requirements on power measurement and sensors and sensor software used for performing the airflow test. 71 FR 42180–42181, 42203, 42204–42205. As discussed in the July 2006 proposed rule, DOE proposed these additional requirements to ensure the validity of the methods used and because the Guidance Manual is too restrictive in their software requirements. 71 FR 42180. DOE did not receive any comments regarding this proposal. DOE is incorporating by reference into Appendix U to Subpart B of 10 CFR Part 430, the applicable ENERGY STAR test

<sup>2</sup> Section 135(b)(1) of EPACT 2005, for example, directs that the test procedure for refrigerated bottled or canned vending machines "shall be based on American National Standards Institute/American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 32.1-2004, entitled 'Method of Testing for Rating Vending Machines for Bottled, Canned or Other Sealed Beverages.'" (42 U.S.C. 6293(b)(15))

procedure requirements, with the minor modifications described above, and in the July 2006 proposed rule. DOE has determined the test methods in the ENERGY STAR document, as modified, comply with the requirements of section 325(v)(1) of EPCA (42 U.S.C. 6295(v)(1)) and section 323(b)(3) of EPCA (42 U.S.C. 6293(b)(3)).<sup>3</sup>

However, stakeholders did submit comments on the following four issues: (1) A request that DOE define and exempt from the standards highly decorative ceiling fans; (2) a question with regard to whether hugger-type ceiling fans are covered by the test procedure; (3) a question as to whether ceiling fans built for export are covered by the standard; and (4) a comment on the recordkeeping associated with testing ceiling fans.

1. *Highly Decorative Ceiling Fans.* The American Lighting Association (ALA) and Emerson Electric (Emerson) requested that DOE define and establish highly decorative ceiling fans as an exempted product. (ALA, No. 14 at pp. 5–6, No. 18.8 at p. 67 and No. 97 at pp. 3–4; Emerson, No. 18.8 at pp. 63–64)<sup>4</sup> ALA suggested a definition of highly decorative ceiling fans based on a fan blade length to width ratio of less than 3:1. (ALA, No. 14 at pp. 5–6, and No. 97 at pp. 3–4) ALA also commented that traditional ceiling fans typically have their highest rotational speeds at more than 200 RPM, and for highly decorative fans, the highest speeds are typically less than 175 RPM. (ALA, No. 97 at pp. 3–4) In this comment, ALA recommended addition to the definition that highly decorative ceiling fans have “a maximum of 175 RPM at high speed down flow.” (ALA, No. 97 at p. 4) American Council for an Energy-Efficient Economy (ACEEE) submitted a comment stating that it agrees a definition for “highly decorative fans” is needed. (ACEEE, No. 59 at p. 2)

<sup>3</sup> As outlined and further detailed in the July 2006 proposed rule, test procedures under EPCA for consumer products must be designed to “measure energy efficiency, energy use, \* \* \* or estimated annual operating cost.” (42 U.S.C. 6293(b)(3))

<sup>4</sup> A notation in the form “ALA, No. 14 at pp. 5–6” identifies a written comment the Department has received and has included in the docket of this rulemaking. This particular notation refers to a comment (1) by the American Lighting Association (ALA), (2) in document number 14 in the docket of this rulemaking (maintained in the Resource Room of the Building Technologies Program), and (3) appearing on pages 5 and 6 of document number 14. Likewise, “Public Meeting Transcript, No. 18.8 at p. 67,” for example, would refer to page 67 of the transcript of the “Public Meeting on Test Procedures and Certification, Compliance, and Enforcement Requirements for Consumer Products and Certain Commercial and Industrial Equipment,” held in Washington, DC, September 26, 2006, which is document number 18.8 in the docket of this rulemaking.

However, ACEEE expressed concern over the definition provided by ALA. They believe that ALA’s proposed definition is too broad and would expand the highly decorative ceiling fan exemption to products that should be covered by the standard. (ACEEE, No. 59 at p. 2)

DOE recognizes that EPCA, as amended by section 135(c)(4) of EPACT 2005, provides that if DOE sets energy conservation standards for ceiling fans, it must consider “establishing separate or exempted product classes for highly decorative fans for which air movement performance is a secondary design feature.” (42 U.S.C. 6295(v)(1)) However, today’s final rule does not establish standards for ceiling fans beyond the design standards in EPACT 2005. (42 U.S.C. 6295(ff)) Thus, the requirement for DOE to consider whether highly decorative fans should be a separate regulated or exempted product class is not relevant at this time. In the future, should DOE amend the energy conservation standards for ceiling fans, it will address whether to establish a separate or exempted product class for highly decorative ceiling fans.

DOE also notes that the provision in EPCA that establishes ceiling fan design standards (section 325(ff) and codified in 10 CFR 430.32(s)(1) by the October 2005 final rule, 70 FR 60409, 60413) does not contain an exemption for highly decorative fans. Specifically, section 325(ff) of EPCA (42 U.S.C. 6295(ff)) requires all ceiling fans to have speed controls separate from lighting controls, adjustable speed controls, and the capability of reversible fan action for most fans. The only exemptions identified in this section apply to the reversible fan action requirement, and are for “fans sold for industrial applications, outdoor applications, and cases in which safety standards would be violated by use of the reversible mode.” Section 325(ff) does not provide for separate treatment or exemption of highly decorative ceiling fans under these design standards. Therefore, the design standards apply to highly decorative ceiling fans, unless an exemption specified in section 325(ff) applies. These standards go into effect for ceiling fans manufactured on or after January 1, 2007.

2. *Hugger Ceiling Fans.* Hunter Fans (Hunter) expressed its view that hugger fans are exempt from DOE’s test procedure. (Hunter, No. 18.8 at p. 69), while Pacific Gas and Electric (PG&E) was concerned about such an exemption from DOE’s test procedure. (PG&E, No. 18.8 at p. 74) Hugger ceiling fans are typically understood to be ceiling fans

that are not suspended from the ceiling; instead, they are set flush to the ceiling. Under section 135(a) of EPACT 2005, EPCA defines “ceiling fan” as “a nonportable device that is suspended from a ceiling for circulating air via the rotation of fan blades.” (42 U.S.C. 6291(49)) Since the statutory definition defines ceiling fan as “suspended from a ceiling” and a hugger fan is not suspended, a hugger fan is not subject to EPCA requirements (including test procedures) applicable to ceiling fans.

3. *Products Manufactured for Export.* Hunter asked whether ceiling fans manufactured for export are subject to EPCA requirements. (Hunter, No. 18.8 at p. 71)

EPCA does not apply to products manufactured, sold, or held for sale for export from the United States and that when distributed, either bear or are in a container that bears, a “stamp or label stating that such covered product is intended for export.” (42 U.S.C. 6300) If such a product is in fact distributed in commerce for use in the United States, the product is subject to EPCA. *Id.*

4. *Burden Imposed by Test Procedure.* ALA and Emerson commented on the burden associated with testing and recordkeeping for ceiling fans. (ALA, No. 14 at pp. 6–7 and No. 97 at pp. 4–5; Emerson, No. 18.8 at p. 65) ALA estimates that the costs associated with complying with EPCA for one ALA member is \$152,114. (ALA, No. 14 at p. 7) ALA also prepared an estimate of the costs for a “typical ALA member,” which totals \$142,755. (ALA, No. 97 at p. 5) ALA commented that it is concerned about the burden being imposed on small businesses, and requests that DOE review the impacts. (ALA, No. 14 at p. 7)

DOE notes that the EPACT 2005 design standards, as codified in the October 2005 final rule (70 FR 60413), do not require use of a test procedure for the purpose of demonstrating compliance. These requirements, which include separate controls for fan and lights, adjustable speed controls and the capability of reversible action, are design requirements and do not require a test procedure.

With regard to the test procedure established today, DOE has yet to establish an accompanying standard. Furthermore, EPCA required DOE to establish a test procedure and to base that test procedure on an existing ENERGY STAR test method (version 1.1). (42 U.S.C. 6293(b)(16)(A)(i)) DOE’s actions to propose and adopt this test method are directly in response to the statutory requirements. Any additional burdens that may be imposed through the use of this test procedure are in

connection with the statutory requirement. Therefore, DOE does not believe that today's final rule, nor the October 2005 final rule codifying the EPCA 2005 design standards, imposes any testing burden on manufacturers, beyond that resulting from EPCA as established by Congress.

DOE notes that on June 21, 2006, the Federal Trade Commission (FTC) published a notice of proposed rulemaking concerning a labeling requirement for ceiling fans. 71 FR 35584. As proposed, the representation of air flow performance of ceiling fans would require the use of DOE's test procedure finalized today.

### B. Ceiling Fan Light Kits

Section 135(c)(4) of EPCA 2005 amended section 325 of EPCA (42 U.S.C. 6295) to add subsection (v)(1), which directs the Secretary to prescribe, by rule, test procedures for ceiling fan light kits. Additionally, section 135(b)(1) of EPCA 2005 amended section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subparagraph (16)(A)(ii), which states that test procedures for ceiling fan light kits "shall be based on" the test methods "referenced in the ENERGY STAR specifications for Residential Light Fixtures and Compact Fluorescent Light Bulbs," as in effect on August 8, 2005. In the July 2006 proposed rule, DOE proposed test procedures for three types of ceiling fan light kits: (1) Ceiling fan light kits with medium screw base sockets; (2) ceiling fan light kits with pin-based sockets for fluorescent lamps; and (3) ceiling fan light kits other than those with medium screw base sockets or with pin-based sockets for fluorescent lamps, including candelabra screw base sockets. 71 FR 42180–82, 42205. The classification of ceiling fan light kits in the July 2006 proposed rule is consistent with the classification established in subsection 325(ff) of EPCA. (42 U.S.C. 6295(ff)) Stakeholders provided comment on various aspects of the ceiling fan light kit proposals, which is discussed in the following three sections.

1. *Ceiling Fan Light Kits with Medium Screw Base Sockets.* Section 135(c)(4) of EPCA 2005 amends section 325 of EPCA (42 U.S.C. 6295) to prescribe standards for certain ceiling fan light kits manufactured on or after January 1, 2007. Specifically, new subsection 325(ff)(2) of EPCA (42 U.S.C. 6295(ff)(2)) provides that ceiling fan light kits with medium screw base sockets must be packaged with screw base lamps to fill all of the sockets, and these lamps must either meet the "ENERGY STAR Program Requirements for Compact Fluorescent Lamps, version 3.0," or use

light sources other than CFLs that have at least equivalent efficacy. These standards for ceiling fan light kits with medium screw base sockets were adopted by DOE in the October 18, 2005, rulemaking. 70 FR 60413. In accordance with EPCA 2005, DOE proposed to adopt the test methods in version 3.0 of the ENERGY STAR Program Requirements for CFLs in the July 2006 proposed rule. 71 FR 42181. While DOE proposed to adopt the test methods in version 3.0 for ceiling fan light kits with screw base sockets, DOE also sought stakeholder comment on the uniformity of the test procedures for these light kits with medium base compact fluorescent lamps, for which DOE proposed the August 9, 2001 version of the ENERGY STAR test requirements. 71 FR 42202.

Concerning the test method for ceiling fan light kits with medium screw base sockets, the National Electrical Manufacturers Association (NEMA) commented both before and during the public meeting that NEMA recommended DOE adopt its proposed test procedure, the "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," version 3.0. NEMA commented that the ENERGY STAR test procedure version 3.0 is not identical to the August 9, 2001, version, and could yield different results for the same CFL model. (NEMA, No. 9 at p. 1–5; Public Meeting Transcript, No. 18.8 at p. 91) As DOE noted in its July 2006 proposed rule, the August 9, 2001, version of the ENERGY STAR test procedure requires a sample size of five lamps, all tested in the base-up<sup>5</sup> position, while version 3.0 requires a sample of ten lamps, five of which are tested base-up and five of which are tested base-down. 71 FR 42182. In its final comment to DOE following the public meeting, NEMA changed its recommendation, commenting that it now believes DOE should adopt the August 9, 2001 version of ENERGY STAR, as the preponderance of CFL installations in ceiling fan light kits would be base-up to 45 degrees from base-up and virtually no base-down applications. (NEMA, No. 71 at p. 2)

Based, in part, on NEMA's earlier comment, DOE has determined that the August 9, 2001, version of the ENERGY STAR requirements would yield

<sup>5</sup>The terms "base-up" and "base-down" used here refer to the physical orientation of the integral CFL during its performance test. "Base-up" means that the CFL is tested essentially upside down, with the screw base and the ballast at the top and the fluorescent tube pointed down. "Base-down" is the inverse of that orientation, in which the CFL's screw base and ballast are at the bottom, and the fluorescent tube is at the top.

different results than version 3.0, as the test setup for the lamps and sample sizes are different. Moreover, version 3.0 encompasses variability in CFL base orientations, whereas version 2.0 only tests performance in one orientation (base up). Thus, it would be difficult for DOE to conclude that its adoption of the August 9, 2001, version would meet the EPCA requirement that the test procedure for ceiling fans be "based on" version 3.0. In addition, DOE is not persuaded that the August 9, 2001, version is the better test method to adopt for lamps packed with ceiling fan light kits with medium screw base sockets. Ceiling fan light kits can have socket configurations that would result in CFLs installed in any range of base orientation configurations, including base-up, base-down, horizontal, and degrees-off-horizontal. Ceiling fan light kits produced today may have a preponderance of base-up to 45 degrees from base-up configurations, but this could change over time, with more horizontal orientations due perhaps to CFL lamp size, which for some CFLs can be longer than incandescent medium screw base lamps. Finally, the referenced industry standards in version 3.0 of the ENERGY STAR specifications are more current than the standards referenced in the August 9, 2001 version. In particular, the industry methods referenced for determining the electrical performance of CFLs are all more current in version 3.0. While the most current version may not always be the most appropriate test standard, in this instance, Congress explicitly cited the latest version. For all these reasons, DOE is adopting version 3.0 of the ENERGY STAR requirements, as it had proposed in the July 2005 notice, rather than the August 9, 2001 version.

2. *Ceiling Fan Light Kits with Pin-Based Sockets for Fluorescent Lamps.* Subsection 325(ff)(3) of EPCA (42 U.S.C. 6295(ff)(3)) requires that ceiling fan light kits that have pin-based sockets for fluorescent lamps manufactured on, or after, January 1, 2007, must be packaged with lamps to fill all of the sockets, and that these lamps must meet the "ENERGY STAR Program Requirements for Residential Light Fixtures, version 4.0." These standards for ceiling fan light kits with pin-based sockets for fluorescent lamps were adopted by DOE in the October 18, 2005 rulemaking. 70 FR 60413.

Concerning the test procedure for ceiling fan light kits with pin-based sockets for fluorescent lamps, DOE proposed to incorporate by reference the test methods in the "ENERGY STAR Program Requirements for Residential Light Fixtures," version 4.0 to measure

the efficacy of pin-based fluorescent lamps that are packaged with ceiling fan light kits. 71 FR 42181. DOE did not receive any comments on this proposal, and therefore is incorporating the test methods from the "ENERGY STAR Program Requirements for Residential Light Fixtures," version 4.0 in today's final rule.

Philips submitted a comment requiring clarification on the requirement for ceiling fan light kits with pin-based sockets for fluorescent lamps. Philips asked whether an integrally-ballasted CFL with a GU24 pin-base would be subject to the same requirements as a ceiling fan light kit with pin-based socket for fluorescent lamps, if these lamps were packaged with a ceiling fan light kit having GU24 sockets. (Philips, No. 18.8 at p. 93; Philips, No. 19 at p. 1) DOE understands that GU24 is a base type that has large pins that lock into a GU24 socket. The GU24 socket is a line-voltage socket and is capable of accommodating different types of lamps, including incandescent. Since the lamp identified by Philips has pins in its base, and is a fluorescent lamp, Philips sought clarification on whether this lamp would be treated as a pin-based fluorescent lamp, and thus be subject to the requirements of the "ENERGY STAR Program Requirements for Residential Light Fixtures," version 4.0, under the EPCA standards for ceiling fan light kits with pin-based sockets for fluorescent lamps. (42 U.S.C. 6295(ff)(3))

Section 325(ff)(2)–(4) of EPCA classifies ceiling fan light kits by socket type only, not by the lamp-type inserted into those sockets. (42 U.S.C. 6295(ff)(2)–(4)) The socket types fall into three categories: Medium screw base, pin-based for fluorescent lamps, and all other sockets that are not medium screw base or pin-based for fluorescent lamps. *Id.* The socket type classified as pin-based for fluorescent lamps has been uniformly understood to refer to sockets which (1) receive (and operate) fluorescent lamps that lack an integral ballast and (2) transmit voltage, received through a ballast, to such lamps at levels considerably higher than the line voltage. The product Philips identified with GU24-based lamp is a fluorescent lamp that has pins in its base. Due to the fact that this lamp is integrally ballasted, the sockets for this lamp type operate at line voltage and such sockets are not uniquely associated with fluorescent lamps. DOE does not consider them to be "pin-based sockets for fluorescent lamps." (42 U.S.C. 6295(ff)(3)) Rather, DOE considers any ceiling fan light kit with GU24 sockets as the third group of ceiling fan light

kits, specifically, those with sockets that are not medium screw base or pin-based for fluorescent lamps. (42 U.S.C. 6295(ff)(4)) Manufacturers could use the GU24 base-type for lamp technologies other than fluorescent technologies. For example, DOE recently learned that a manufacturer is launching a new product that incorporates a ballast and light-emitting diodes (LED) into a reflector lamp that has a GU24 base. While this new LED lamp may indeed be highly efficient and qualify for the standards imposed by EPCA 2005 on pin-based for fluorescent lamps, it clearly is not a fluorescent lamp.

In the July 2006 proposed rule, DOE proposed a definition of pin-based as follows: "Pin-based means a fluorescent lamp with a plug-in lamp base, including multi-tube, multibend, spiral, and circline types." 71 FR 42181, 42203. DOE intended that this definition reflect the well understood meaning of "pin-based" as a plug-in base, and not a screw base, for a CFL that was not integrally ballasted. In response to the question from Philips, DOE now recognizes that there could be some ambiguity in this definition, and has therefore inserted the clarifying phrase, "that is not integrally ballasted," to the definition of "pin-based." DOE has also made some clarifying editorial changes to this definition to make clear that it describes the base of a lamp, not the lamp itself, and that it also applies to the sockets that receive pin-based fluorescent lamps. Thus, in today's final rule, the definition, which will appear in 10 CFR 430.2, reads: "Pin-based means (1) the base of a fluorescent lamp, that is not integrally ballasted and that has a plug-in lamp base, including multi-tube, multibend, spiral, and circline types, or (2) a socket that holds such a lamp."

3. *Ceiling Fan Light Kits with Sockets Other than Medium Screw Base or Pin-Based.* For this group of products, section 135(c)(4) of EPCA 2005 amends section 325 of EPCA (42 U.S.C. 6295) by adding new subsection (ff)(4), which directs DOE to "consider and issue requirements" for any ceiling fan light kits other than those with medium screw base or pin-based sockets, "including candelabra screw base sockets." For these light kits, EPCA 2005 has two default requirements: (1) They shall not be capable of operating with lamps that total more than 190 watts; and (2) they shall include lamps whose total wattage does not exceed 190 watts. (42 U.S.C. 6295(ff)(4)(c)) If the Secretary does not issue a final rule establishing requirements for these ceiling fan light kits by January 1, 2007, the default requirements described

above will become law. *Id.* DOE will not be publishing requirements for these light kits by the statutory deadline. Therefore, the statutory requirements, that ceiling fan light kits not be capable of consuming more than 190 watts and that they include such lamps, will become effective for this category of ceiling fan light kits manufactured after January 1, 2009, as specified by EPCA. *Id.*

DOE is not requiring a test procedure for the wattage limitation, but instead is requiring that the total wattage of the lamps packaged with a ceiling fan light kit not exceed 190 watts. A manufacturer would simply ensure that there are sufficient lamps packaged with the ceiling fan light kit to fill any and all sockets in the fixture and the total wattage of those lamps would not exceed 190 watts. In the July 2006 proposed rule, DOE asked for stakeholder comment on whether the "capable of operating" requirement should be considered an energy conservation standard (requiring a test procedure) or a design standard (not requiring a test procedure). 71 FR 42181–2. DOE also stated in the July 2006 proposed rule that if DOE considered the 190-watt limitation as a design requirement, manufacturers of these ceiling fan light kits would be required to incorporate some measure such as a fuse, circuit breaker or current-limiting device to ensure the light kit was not capable of operating with a lamp or lamps totaling more than 190 watts. 71 FR 42181.

DOE received comments from several stakeholders as to whether the statutory standard is a design requirement or an energy conservation standard. Hunter and the American Lighting Association (ALA) both commented that DOE should interpret the statutory requirement of "not [being] capable of operating with lamps [totaling] more than 190 watts" as a design requirement. (Hunter, No. 3 at p. 1; Hunter, No. 18.8 at pp. 82–83; ALA, No. 97 at p. 5) ALA commented that there are various ways you can control a device to consume not more than 190 watts, including fuses and circuit breakers. These devices have UL and CSA standards already in place for them, which would make it relatively straightforward to meet the 190-watt power limit. (ALA, No. 18.8 at pp. 83–84 and No. 97 at p. 5) ALA provided a detailed cost estimate of the impacts on a typical ALA member should DOE interpret this as an energy conservation standard. (ALA, No. 97 at pp. 6–7) ACEEE commented that it would consider the inclusion of a wattage-limiting device or fuse/circuit breaker as

adequate, provided the device has been tested to show that more than 190 watts cannot be used. (ACEEE, No. 59 at p. 2) Furthermore, ACEEE recommends that the requirements for the 190-watt provision be the same between this category of ceiling fan light kits and torchieres. (ACEEE, No. 59 at p. 2)

DOE considered these comments, and is interpreting the 190-watt limit on power consumption for certain ceiling fan light kits as a design requirement (similar to the features required by section 135(c)(4) of EPCACT 2005 for ceiling fans). This approach, consistent with DOE's treatment of a similar provision for torchieres, will require that manufacturers incorporate some measure such as a fuse, circuit breaker or current-limiting device to ensure the light kit is not capable of operating with a lamp or lamps totaling more than 190 watts. Thus, today's final rule does not establish a test procedure, but instead DOE anticipates requiring that manufacturers report to DOE on the feature or features that have been incorporated into the ceiling fan light kit (e.g., circuit breaker, fuse, or other current-limiting device) to ensure they would not draw more than 190 watts of power once certification and enforcement provisions are adopted for these products.

ALA provided six examples of ceiling fans and ceiling fan light kits that it requested DOE's clarification on how the 190-watt limitation should be applied. (ALA, No. 97 at p. 6) These six examples focus on the application of the 190-watt limitation and do not include the mandatory performance requirements for ceiling fan light kits with medium screw base sockets or pin-based sockets for fluorescent lamps. These examples also do not address the mandatory packaging requirements associated with ceiling fan light kits, which are clearly laid out in EPCACT 2005. These six examples of ceiling fans and ceiling fan light kits that ALA outlined in their comments and DOE's responses are as follows:

- For ceiling fans with integrated lighting that are incapable of "attachable" ceiling fan light kit installation, a 190-watt limiting device will be supplied with the fan to control the integrated lighting.

DOE determined that supplying the 190-watt limiting device with the fan to ensure that the integrated lighting not exceed the 190-watt limitation for ceiling fans with integrated lighting that are incapable of "attachable" ceiling fan light kit installation complies with this wattage limitation. This wattage limitation would not apply to ceiling

fans with integrated light kits having medium screw base sockets or pin-based sockets for fluorescent lamps.

- For ceiling fans with integrated lighting that are capable of "attachable" ceiling fan light kit installation, a 190-watt limiting device will be supplied to control the integrated lighting.

DOE determined that the 190-watt limitation applies to the integrated lighting and/or any other attachable ceiling fan light kit that could be installed on the ceiling fan for ceiling fans with integrated lighting that are capable of "attachable" ceiling fan light kit installation. Again, this wattage limitation would not apply to ceiling fans with integrated light kits having medium screw base sockets or pin-based sockets for fluorescent lamps.

- For ceiling fans with pin base fluorescent lamps, a 190-watt limiting device will not be supplied with the fan.

DOE determined that ceiling fans that incorporate an integral light kit with pin-based sockets for fluorescent lamps would not have to include a 190-watt limiting device because the lamps are subject to requirements for ceiling fan light kits with pin-based sockets for fluorescent lamps.

- For ceiling fans without integrated lighting, a 190-watt limiting device will not be supplied with the fan.

DOE determined that the 190-watt limiting device does not need to be supplied with a ceiling fan sold without integrated lighting because there is no light kit packaged with the ceiling fan. However, any ceiling fan light kits sold directly to consumers for installation on a ceiling fan without integrated lighting would be subject to the ceiling fan light kit standards established for medium screw base sockets, pin-based sockets for fluorescent lamps or any other socket type.

- For "attachable" ceiling fan light kits with medium screw base sockets or pin-based sockets for fluorescent lamps, a 190-watt limiting device will not be supplied with the light kit. (ENERGY STAR approved medium screw base CFL's and pin-based fluorescent lamps are supplied with the light kit)

DOE determined that a 190-watt limiting device would not be required for "attachable" ceiling fan light kits with medium screw base sockets or pin-based sockets for fluorescent lamps because these two types of light kits would be subject to the requirements for ceiling fan light kits with medium screw

base sockets and pin-based sockets for fluorescent lamps.

- For "attachable" ceiling fan light kits with other than medium base or pin-based sockets for fluorescent lamps, a 190-watt limiting device will be supplied with the light kit.

DOE also determined that "attachable" ceiling fan light kits with sockets other than medium screw base or pin-based for fluorescent lamps would be required to be supplied with a 190-watt limiting device. These "attachable" ceiling fan light kits are required to meet the mandatory standards, as outlined in EPCACT 2005.

Litex Industries submitted a comment recommending that DOE eliminate the requirement to use a circuit breaker or similar limiting mechanisms for these ceiling fan light kits, and instead have a design requirement that manufacturers cannot have more than three candelabra sockets in a ceiling fan light kit. (Litex, No. 103 at pp. 1–2) Litex asserts that it would be impossible for consumers to install wattages in excess of 190 watts, as candelabra lamps are only rated up to 60 watts each. (Litex, No. 103 at p. 2) In addition, Litex recommends that DOE eliminate the need to package candelabra base lamps with the ceiling fan light kit because consumers could obtain the lamps more cheaply from existing suppliers. (Litex, No. 103 at p. 2)

DOE appreciates this comment from Litex, but is not able to accommodate either recommendation. Concerning the design requirement, this category of sockets other than medium screw base and pin base for fluorescent lamps includes ceiling fan light kits with all other socket types, not just candelabra. Thus, EPCA applies to several base types simultaneously, some of which do have lamps rated higher than 60 watts. On the issue of eliminating the requirement to package the ceiling fan light kits with lamps, section 325(ff)(4)(C) of EPCA (42 U.S.C. 6295(ff)(4)(C)) states that these ceiling fan light kits manufactured after January 1, 2009, "(i) shall include the lamps described in clause (i) in the ceiling fan lighting kits." Litex's recommendation is contrary to the requirements of EPCA, and therefore can not be adopted.

Hunter fan asked for clarification as to whether ceiling fan "up-lighting/accent lighting" would be included in the 190-watt limitation for these ceiling fan light kits. (Hunter, No. 3 at p. 1) DOE is unclear as to what Hunter means by "up-lighting" in the context of ceiling fan light kits. EPCA expressly subjects ceiling fan light kits with sockets other than medium screw base and pin-based

for fluorescent lamps to the wattage limitation requirement. It is conceivable that some ceiling fan light kit designs could provide "up-lighting" if the lamps installed in the ceiling fan light kit are directed upward. Thus, these ceiling fan light kits would be subject to the 190-watt limitation. However, DOE does not consider ceiling fan accent lighting that is not a significant light source to be part of the 190-watt limitation.

DOE has made this determination for several reasons. First, pursuant to section 135(a)(3) of EPACT 2005, EPCA defines a ceiling fan light kit, in part, as equipment "designed to provide light." (42 U.S.C. 6291(50)) The purpose of accent lighting is not to provide direct light; instead, it is commonly used for decorative purposes. As such, accent lighting is not covered by EPCA. Second, this application of the standard is clearly consistent with EPCA's treatment of ceiling fan light kits with medium-screw base sockets and those with pin-based sockets for fluorescent lamps. For these two types of ceiling fan light kits, section 325(ff) of EPCA clearly regulates only lamps inserted into screw base or pin-based sockets, and not any accent lights otherwise incorporated into the fan. (42 U.S.C. 6295(ff)(2)-(3)) Third, as with the treatment of torchieres in today's final rule, DOE is concerned with addressing energy consumption by light sources that are aligned with the primary purpose of the ceiling fan light kit. For ceiling fan light kits, the general illumination provided by the light kit is its principal function, and thus should be subject to the 190-watt limitation. Other ancillary lighting, such as accent lighting serves primarily an aesthetic purpose and is therefore not part of the general illumination function of the ceiling fan light kit.

#### C. Dehumidifiers

Section 135(b)(1) of EPACT 2005 amends section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subsection (b)(13) for dehumidifiers. New subsection 323(b)(13) (42 U.S.C. 6293(b)(13)) directs the Secretary to prescribe test procedures for dehumidifiers based on the test criteria in the "ENERGY STAR Program Requirements for Dehumidifiers," as in effect on August 8, 2005. The July 2006 proposed rule proposed to incorporate by reference into 10 CFR Part 430 the test criteria contained in the "ENERGY STAR Program Requirements for Dehumidifiers," as in effect on August 8, 2005. The ENERGY STAR requirements went into effect on January 1, 2001, and reference the American National Standards Institute (ANSI)/Association of Home Appliance

Manufacturers (AHAM) Standard DH-1-2003, "Dehumidifiers," for energy consumption measurements during capacity-rating tests and CAN/CSA Standard C749-1994, "Performance of Dehumidifiers," for energy factor calculations. 71 FR 42182, 42203, and 42206.

DOE received one comment on this issue. AHAM commented that they agreed with the proposal as the test procedure for dehumidifiers. (Public Meeting Transcript, No. 18.8 at p. 23) DOE is incorporating by reference into Appendix X of 10 CFR Part 430, the definitions, tolerances, and testing procedures in the "ENERGY STAR Program Requirements for Dehumidifiers," January 1, 2001 without any modifications. DOE believes this test procedure provides a sound means for determining compliance with the standards in section 325(cc) of EPCA, (42 U.S.C. 6295(cc)), and satisfies the requirements of section 323(b)(3) of EPCA. (42 U.S.C. 6293(b)(3))

#### D. Medium Base Compact Fluorescent Lamps

Section 135(b)(1) of EPACT 2005 amends section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subsections (b)(12)(A) through (C), for "medium base" compact fluorescent lamps (CFLs). (These CFLs are also commonly referred to as "screw base" CFLs.) Subsection 323(b)(12)(A) of EPCA requires test procedures for medium base CFLs to be based on the August 9, 2001, version of the ENERGY STAR program requirements for CFLs (version 2.0), which became effective October 1, 2001. (42 U.S.C. 6293(b)(12)(A)) In the July 2006 proposed rule, DOE discussed whether it should adopt the more recent version of the CFL ENERGY STAR program requirements (version 3.0) which became effective January 1, 2004, or the version directed by EPCA, version 2.0. 71 FR 42182. Although DOE proposed to adopt version 2.0, the August 9, 2001 version, in the proposed rule, DOE considered adopting version 3.0 because: (1) It was the current version of the CFL ENERGY STAR test procedure; (2) version 3.0 was required in a different part of the EPACT 2005 that established standards for CFLs packaged with ceiling fan light kits; and (3) DOE believes version 3.0 would result in the same measure of energy efficacy. 71 FR 42205.

DOE received several comments in response to the July 2006 proposal to adopt the August 9, 2001 version of the "ENERGY STAR Program Requirements for CFLs" as the test procedure for medium base compact fluorescent

lamps. NEMA opposes DOE adopting version 3.0 of the CFL ENERGY STAR program requirements for testing CFLs generally, and recommended that DOE adopt version 2.0, as directed by EPCA. (NEMA, No. 18.8 at pp. 86-91; NEMA No. 9 at pp. 2-6) NEMA provided detailed reasons for its position. NEMA states that these are two separate testing regimens, intended for different products in different applications. The test method itself is different (*e.g.*, version 2.0 tests five lamps base-up while version 3.0 tests ten lamps, five base-up and five base-down), and would therefore yield different lumen per watt and lamp maintenance results. (NEMA, No. 9 at pp. 2-3) NEMA also commented that EPACT 2005 incorporated the August 9, 2001, ENERGY STAR program requirements (version 2.0) to provide a minimum floor for CFLs in the general lighting market, and intentionally adopted the different requirements in version 3.0 for CFLs shipped with ceiling fan light kits. (NEMA No. 9, at pp. 4-5) ALA commented that it agrees with NEMA that the appropriate test procedure for medium base CFLs is version 2.0. (ALA, No. 97 at p. 3) ACEEE disagreed with the viewpoint of NEMA and ALA, commenting that the ENERGY STAR version 3.0 test is more accurate since it includes both base-up and base-down testing. (ACEEE No. 59 at p. 3)

Upon consideration of these comments, DOE agrees that the test method in version 3.0 could result in a different measure of energy efficiency than the method in version 2.0, and DOE recognizes that the standards set by EPACT 2005 for CFLs are based on the August 9, 2001, version of the ENERGY STAR program requirements for CFLs (version 2.0). Therefore, DOE is adopting version 2.0 (August 9, 2001) of the ENERGY STAR program requirements as the test method for CFLs generally. DOE believes this test procedure provides the testing setup and methods for determining compliance with the standards in section 325(cc) of EPCA, as amended (42 U.S.C. 6295(cc)), and it satisfies the requirements of section 323(b)(3) of EPCA. (42 U.S.C. 6293(b)(3))

DOE notes that in section 135(c) of EPACT 2005, which amended section 325 of EPCA to add subsection (bb), the statute established energy conservation standards for medium base CFLs. In that subsection, DOE was directed to adopt the minimum initial efficacy, lumen maintenance, rapid cycle stress test and lamp life requirements prescribed in version 2.0 (August 9, 2001) of the ENERGY STAR program requirement for CFLs. DOE codified these standards in

the October 2005 final rule. 70 FR 60413.

#### E. Torchiere

Section 135(a) of EPACT 2005 included an amendment to EPCA that defined a "torchiera" as "a portable electric lamp with a reflector bowl that directs light upward to give indirect illumination." (42 U.S.C. 6291(42)) DOE codified that definition in the October 2005 final rule. 70 FR 60412. EPACT 2005 also amended section 325 of EPCA to establish an energy conservation standard for torchieres that they (1) consume not more than 190 watts of power and (2) shall not be capable of operating with lamps that total more than 190 watts. (42 U.S.C. 6295(x)) This standard, which took effect for torchieres manufactured on or after January 1, 2006, was also codified in the October 2005 final rule. 70 FR 60413.

In the July 2006 proposed rule, DOE outlined two possible approaches to addressing this energy conservation standard. 71 FR 42183. Since EPACT 2005 neither prescribes nor directs DOE to develop a test procedure for torchieres, DOE's choice of approach will determine whether or not a test procedure is required for torchieres. One approach identified in the July 2006 proposed rule would be for DOE to interpret the statutory requirement of "not be capable of operating with lamps that total more than 190 watts" as a design requirement. Under this interpretation, DOE would not require a test procedure. The alternative approach identified in the July 2006 proposed rule would be for DOE to adopt a test procedure that would measure the power consumption of a torchiera. DOE sought stakeholder comment on these two possible approaches to addressing the energy conservation standard. 71 FR 42202.

Three issues were raised by stakeholders in this rulemaking proceeding that pertain to torchieres. First, stakeholders sought clarity on how DOE interprets the definition of a torchiera, as codified at 10 CFR 430.2. Second, stakeholders commented on the two approaches to interpreting EPCA, namely, whether the requirement is a design or energy conservation standard. Associated with this, stakeholders also requested input from DOE on the use of certain types of UL-listed devices (i.e., current-limiting devices) as design options to demonstrate compliance with the standard. And third, stakeholders asked if DOE had any discretion on how and when it might enforce the standard on torchieres, to allow sufficient time for manufacturers to incorporate

current-limiting devices into torchiera product lines.

1. *Definition of a Torchiera.* Several stakeholders commented that, for fixtures that provide both indirect lighting through a reflector bowl as well as other lighting, DOE should consider only the reflector bowl portion of the fixture as subject to the 190-watt energy consumption limitation. (ALA, No. 14 at p. 2, No. 18.8 at p. 96, and No. 97 at p. 2; Progress Lighting, No. 96 at p. 1; Holtkotter, No. 92 at p. 1; Pacific Coast Lighting, No. 91 at p. 1; Lite Source, No. 99 at p. 1) In other words, these stakeholders were asserting that any accent lighting, down-lights or other auxiliary energy-using features incorporated into the fixture would not be considered part of the 190-watt energy consumption limitation.

PG&E and ACEEE disagreed with this interpretation. PG&E stated that the 190-watt limitation, which is the California standard for torchieres, applies to any auxiliary lighting features as well the reflector bowl. (PG&E, No. 18.8 at p. 106) ACEEE also disagreed, commenting that a narrower interpretation that excluded task and decorative lighting from the 190-watt limitation would not be appropriate and is beyond DOE's authority. (ACEEE, No. 59 at p. 2)

DOE considered these comments and determined that the EPCA provisions for torchieres mean that the 190-watt limitation applies to the energy consumed to produce light emanating from the reflector bowl, and not to any other direct light or light from other design features. DOE reached this conclusion based on the fact that the EPCA definition for torchiera focuses on its distinctive characteristic of having a reflector bowl directing light upwards. A lighting fixture that includes a torchiera and has one or more task lights that provide direct illumination offers additional consumer utility that is only available in certain consumer product models. Therefore, in today's final rule, DOE interprets the mandatory 190-watt limitation for torchieres as a design standard, which is applicable only to the reflector bowl portion of the torchiera fixture. For those torchieres that do incorporate task lighting or other design features into the torchiera fixture, those task lights or design features are not considered part of the 190-watt limitation.

DOE recognizes that the most common type of torchiera is one that consists solely of a lamp operating in a reflector bowl, directing light upward. Therefore, DOE is interpreting the term "torchiera" as including any portable fixture having a reflector bowl that directs light upward, regardless of

whether the torchiera may also have any other task lights or other design features incorporated into the fixture.

2. *Design Standard.* ALA commented on the use of certain types of devices (i.e., current-limiting devices) as design options to achieve compliance with the standard. More specifically, ALA asked whether using nominally-rated power and current-limiting devices that are tested and approved by organizations including UL and the CSA is a suitable approach for achieving the 190-watt power limitation. (ALA, No. 14 at p. 2; ALA, No. 18.8 at p. 97) ACEEE commented that it believes a wattage-limiting device would be adequate, provided the device has been tested to show that more than 190 watts cannot be used. (ACEEE, No. 59 at p. 2) DOE indicated in the July 2006 proposed rule that it recognizes manufacturers may choose to follow one of several possible design pathways to comply with the regulations, including, but not limited to, a fuse, circuit breaker or other current-limiting device. 71 FR 42183. Use of a current-limiting device as described by ALA would be one approach to ensuring torchieres do not consume more than 190 watts, and thereby comply with the standard.

DOE notes that EPACT 2005 did not provide explicit authority to DOE for developing a test procedure for torchieres. As noted above, DOE determined to interpret the energy conservation standard for torchieres as a design requirement. In this way, DOE does not require (or adopt) a test procedure in today's final rule, but instead, will require that manufacturers report on the feature or features that have been incorporated into the torchiera (e.g., circuit breaker, fuse, ballast) so they would not draw more than 190 watts of power. These certification requirements as proposed for torchieres in the July 2006 proposed rule will be addressed in a separate final rule as described above in section II. 71 FR 42183. This approach is consistent with the fact that EPCA does not explicitly direct DOE to establish a test procedure.

3. *Enforcement of Design Standard.* ALA, Progress Lighting, Holtkotter, Pacific Coast Lighting, Lite Source, Senator Talent, and Representatives Sessions and Gordon asked whether DOE had any discretion on how and when it might enforce the standard on torchieres, to allow sufficient time for manufacturers to incorporate the current-limiting devices into their product lines. (ALA, No. 14 at p. 4, No. 18.8 at pp. 98-99, and No. 97 at p. 2; Progress Lighting, No. 96 at p. 1; Holtkotter, No. 92 at p. 1; Pacific Coast

Lighting, No. 91 at p. 1; Lite Source, No. 99 at p. 1; Senator Talent, No. 101 at p. 1; Representatives Sessions and Gordon, No. 102 at p. 1) ALA, Progress Lighting, Holtkotter, Pacific Coast Lighting, Senator Talent, and Representatives Sessions and Gordon requested that DOE delay its enforcement of the standard until April 30, 2007. (ALA, No. 14 at p. 4, No. 18.8 at pp. 98–99, and No. 97 at p. 2; Progress Lighting, No. 96 at p. 1; Holtkotter, No. 92 at p. 1; Pacific Coast Lighting, No. 91 at p. 1, Senator Talent, No. 101 at p. 1; Representatives Sessions and Gordon, No. 102 at p. 1) Lite Source requested that DOE delay its enforcement of the standard until July 1, 2007. (Lite Source, No. 99 at p. 1) ACEEE commented that EPCA requires torchiere standards to take effect January 1, 2006, and it does not believe DOE has the authority to delay the effective date to April 2007 as industry requested. (ACEEE, No. 59 at p. 3) DOE notes that EPCA, as amended by section 135(c) of EPACT 2005, specifies that the standard applies to all torchieres manufactured on or after January 1, 2006. (42 U.S.C. 6295(x)) DOE does not have the authority to amend the legislated effective date. All torchieres imported or manufactured after that effective date must be compliant with the national standard, as set by Congress.

#### F. Unit Heaters

Section 135(c)(4) of EPACT 2005 amends section 325 of EPCA to add subsection (aa) (42 U.S.C. 6295(aa)), which requires that unit heaters manufactured on or after August 8, 2008, be equipped with an intermittent ignition device, and have power venting or an automatic flue damper. DOE incorporated these design standards into 10 CFR 430 in the October 2005 final rule. 70 FR 60407. Since EPACT 2005 promulgated a design standard for unit heaters, DOE is not proposing test procedures for this equipment. Test procedures under EPCA must be designed to measure “energy efficiency, energy use, \* \* \* or estimated annual operating cost.” (42 U.S.C. 6314(a)(2))<sup>6</sup> Test procedures are not required for determining compliance with design standards. (42 U.S.C. 6295(s))

In the July 2006 proposed rule, DOE proposed definitions for the terms “intermittent ignition device,” “power venting,” “automatic flue damper,” and “fan-type heater” as they relate to unit heaters, since none of these terms are defined in EPCA and DOE believes that

the definitions are necessary to clarify the coverage and content of the standards for unit heaters. 71 FR 42184. The term “fan-type heater” is part of the EPCA definition of “unit heater” (EPACT 2005, section 135(a)(3), and 42 U.S.C. 6291(45)) and the terms “intermittent ignition device,” “power venting,” and “automatic flue damper” are part of the standards established in EPCA (EPACT 2005, section 135(c)(4) and 42 U.S.C. 6295(aa)). DOE based the proposed definitions on those found in industry consensus standards, and modified the definitions to reflect their application to unit heaters. 71 FR 42184.

Today’s final rule adopts the proposed definitions with some revisions to provide additional clarity. DOE is also clarifying the regulatory text to indicate that unit heaters with automatic vent dampers comply with the design requirement.

1. *Definitions.* The Gas Appliance Manufacturer Association (GAMA) commented on the proposed definitions for unit heaters, suggesting several modifications to each. (GAMA, No. 7, pg. 1) In particular, GAMA pointed out that the Federal standards for unit heaters are design requirements and stated that it believes Congress’s intent when including these standards in EPACT 2005 was to eliminate standing pilots and limit the amount of heat loss during “off” cycles. (GAMA, No. 7 at p. 1)

As such, GAMA suggested that the definition for intermittent ignition device be broadened to cover several different types of electronic ignition systems including units that ignite a pilot and those that use a hot surface or a spark to directly ignite the main burner. (GAMA, No. 7 at p. 2) GAMA also stated that the definition of power venting needed to be broadened to provide clarity, and to allow for optional add-on mechanical venting systems that help draw products of combustion from the appliance so as to lower the flue gas temperature, as well as use a non-metallic vent pipe. (GAMA, No. 7 at p. 2) ACEEE commented in support of these suggested modifications to DOE’s proposed definitions. (ACEEE, No. 59 at p. 2) DOE agrees with these suggested modifications to its proposed definitions, as well as GAMA’s rationale for broadening these definitions to make them applicable to many different configurations of unit heaters, and has incorporated these modifications into today’s final rule.

GAMA also asserted that the definition of fan-type heater is not needed to interpret or understand the design standards set forth in EPACT

2005. GAMA stated that this term is not used in any federal requirement except the definition of unit heater and that the proposed definition is incorrect. GAMA states that the July 2006 proposed definition of fan-type heater describes a fan-type heater as providing combustion air, which is not the case for this type of equipment. (GAMA, No. 7 at p. 3) Upon further review, DOE agrees that the proposed definition of fan-type heater is incorrect, and also that a definition of this term is not needed. DOE reached this conclusion because any fan-type heater by nature is designed to move air and that is what the definition of fan-type heater proposed in the July 2006 proposed rule explicitly states. DOE feels that this redundancy is unnecessary; therefore, no such definition is included in today’s final rule.

In the July 2006 proposed rule, DOE proposed a definition of automatic flue damper as follows:

“Automatic flue damper means a damper, usually electrically operated, which when fitted in the flue of a gas or oil-fired space- or water-heating appliance and connected to the appliance control system opens on firing and shuts after the main burner has been extinguished.”

71 FR 42212–42213. GAMA stated that industry practice distinguishes between flue dampers and vent dampers, and suggested that DOE modify the above definition to clearly recognize this distinction, by adopting the definition of automatic flue dampers from ANSI/the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)/the Illuminating Engineering Society of North America (IESNA) Standard 90.1, “Energy Standard for Buildings Except Low-Rise Residential Buildings” (ANSI/ASHRAE/IESNA Standard 90.1). (GAMA, No. 7 at p. 2) GAMA apparently was concerned that the proposed definition would subsume both flue dampers and vent dampers, and could create confusion because normal industry usage does not include automatic vent dampers within the category of “automatic flue damper.” Thus, GAMA suggested incorporating, as part of the definition of automatic flue damper, clarification that the flue damper is located, in relation to the direction of flow of the combustion products, prior to the draft control device. (GAMA, No. 7 at p. 2) Lastly, with regard to unit heaters, GAMA suggested adding a definition of “automatic vent damper” to further distinguish between a flue damper and a vent damper, and suggested that for a vent damper, DOE also use the definition contained in ANSI/ASHRAE/

<sup>6</sup> Even though unit heaters are commercial equipment, Congress placed them in the residential section of EPACT 2005.

IESNA Standard 90.1. (GAMA, No. 7 at p. 2) ACEEE also commented in support of these proposals. (ACEEE, No. 59 at p. 2)

In proposing a definition of automatic flue damper, DOE did not explicitly intend to capture automatic vent dampers. DOE recognizes that the proposed definition was broad enough to include a design that has a similar function as automatic flue dampers as defined by industry. However, DOE does not want the definition to conflict with industry-accepted definitions. DOE agrees with GAMA's suggested revisions to the proposed definition of automatic flue damper and with the addition of its suggested definition of automatic vent damper. The revised definition conforms to the scope of equipment DOE intended to include in the proposed July 2006 proposed rule definition of "automatic flue damper." And, addition of the new definition for automatic vent damper will serve two functions. First it will delineate devices excluded from the definition of automatic flue damper. Second, it will provide clarification for manufacturers to distinguish between DOE's treatment of two technologies that perform similar functions, but are placed in different locations within the venting system. These modifications and adoption of these definitions will clarify the coverage and the content of the design standards for unit heaters. Therefore, today's final rule incorporates both the revised definition of automatic flue damper and the new definition of automatic vent damper, incorporating the ASHRAE definitions, into section 431.242 of 10 CFR Part 431.

2. *Automatic Vent Dampers.* As just discussed, DOE's proposed definition of "automatic flue damper" was broad enough to include automatic vent dampers. Although DOE did not explicitly address this inclusion in the July 2006 proposed rule that was clearly one possible interpretation of the proposed rule. As proposed, the definition of "automatic flue damper" would have permitted the use of automatic vent dampers to comply with the design requirement.

In conjunction with GAMA's comments that DOE modify the definition of automatic flue damper and

add the definition of automatic vent damper, GAMA also requested in its written comment and at the public meeting that DOE interpret the EPCA requirements for unit heaters to allow the equipment to use an automatic vent damper instead of, or as an acceptable alternative to, an automatic flue damper for unit heaters that draw combustion air from conditioned space. GAMA asserts that the use of an automatic vent damper on a unit heater meets the intent of the legislation because it saves more energy than a flue damper, by significantly reducing building heat loss through the draft control device and venting system during off cycles. (GAMA, No. 7 at p. 3; Public Meeting Transcript, No. 18.8 at pp. 18 and 54–55) GAMA also explained at the public meeting that ASHRAE is currently considering a proposal that would allow automatic vent dampers as an acceptable alternative to automatic flue dampers. (Public Meeting Transcript, No. 18.8 at pp. 18 and 54) In support of the GAMA proposal, ACEEE commented that "automatic vent dampers" should be considered an acceptable alternative to "automatic flue dampers." (ACEEE, No. 59 at p. 2)

Section 135(c)(4) of EPACT 2005 amends section 325 of EPCA to add subsection (aa) (42 U.S.C. 6295(aa)), which requires that unit heaters manufactured on or after August 8, 2008, " \* \* \* have power venting or an automatic flue damper." DOE has determined that an established way for manufacturers to reduce or minimize energy losses through the vent system of certain unit heaters, namely those that draw combustion air from the conditioned space, is to include an automatic vent damper in lieu of an automatic flue damper. In addition, DOE believes the intent of the EPCA requirement that unit heaters have power venting or an automatic flue damper, is to reduce the heat loss through the vent system during "off" cycles, as that is the purpose of power venting and of automatic flue dampers. An "automatic vent damper" in a unit heater performs this function of reducing energy losses, by restricting the flow of heated air out of the venting system during off cycles, and the automatic vent damper performs this

function in a manner superior to the automatic flue damper. (GAMA, No. 7 at p. 2) In consideration of the above, DOE is adopting the term "automatic vent damper," and today's final rule will explicitly permit the use of an automatic vent dampers to comply with the standard for unit heaters that draw combustion air from the conditioned space. These provisions will be placed in sections 431.242 and 431.246 of 10 CFR Part 431.

#### G. Automatic Commercial Ice Makers

Section 136(f)(1)(B) of EPACT 2005 amends section 343 of EPCA to add subsection (a)(7)(A) (42 U.S.C. 6314(a)(7)(A)), which states that the test procedures for automatic commercial ice makers "shall be the test procedures specified in the Air-Conditioning and Refrigeration Institute Standard 810–2003, as in effect on January 1, 2005." The title of this Standard is "Performance Rating of Automatic Commercial Ice Makers."

1. *Test Procedure.* In the July 2006 proposed rule, DOE stated its intention to adopt Air-Conditioning and Refrigeration Institute (ARI) Standard 810–2003 as the test procedure for automatic commercial ice makers of cube-type, which references ASHRAE Standard 29–1988 (RA 2005), with one modification. 71 FR 42184–85. Section 4, "Test Requirements," of ARI Standard 810–2003 references the performance tests in ASHRAE Standard 29, "Methods of Testing Automatic Ice Makers." DOE stated in the July 2006 proposed rule that it believes ARI Standard 810–2003 provided for use of the most current version of ASHRAE Standard 29, which at present is ANSI/ASHRAE Standard 29–1988 (Reaffirmed 2005). 71 FR 42184–42185. DOE also proposed to require explicitly that the energy consumption rate calculated using ANSI/ASHRAE Standard 29–1988 (RA 2005) be determined using the total amount of ice produced during the cycles in which energy consumption is measured in the calculation of the energy consumption rate. 71 FR 42185. The July 2006 proposed rule included the requirement that the energy consumption rate normalized to 100 pounds (100 lbs) of ice be determined as follows:

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

At the September 2006 public meeting, ARI commented in support of

DOE's proposal to adopt ARI Standard 810–2003 as the test procedure for

automatic commercial ice makers with the revised energy use rate equation.

ARI further elaborated on the modified energy use rate equation by stating that ARI believes that this method has been used without the clarification. ARI suggested that DOE submit any revisions and clarifications to the ASHRAE Standard 29 committee, which would ensure that ASHRAE Standard 29 be amended to reflect and clarify this energy use rate situation. ARI Standard 810–2003 references ASHRAE Standard 29–1988 (RA 2005) for the methods of tests and energy consumption rate calculations. (Public Meeting Transcript, No. 18.8 at pp. 45–46)

DOE is incorporating by reference the definitions, testing methods, and rating requirements of ARI Standard 810–2003, which references the testing provisions from ASHRAE Standard 29–1988 (RA 2005), and the revised method of calculating the energy consumption rate as proposed in the July 2006 proposed rule. The adopted test procedure provides a method for measuring the energy use and water use at the harvest rate levels specified in section 342(d) of EPCA (42 U.S.C. 6313(d)), and for determining compliance with the standard levels in that section. Furthermore for the reasons stated in the July 2006 proposed rule, 71 FR 42184–85, the adoption of these provisions satisfies both the requirement that the test procedures for automatic commercial ice makers “shall be” the test procedures in ARI Standard 810–2003 (42 U.S.C. 6314(a)(7)(A)) and the general requirements for test procedures in 42 U.S.C. 6314(a)(2).

Finally, section 136(h)(3) of EPACT 2005 amends section 345 of EPCA (42 U.S.C. 6316) to add subsection (f)(4) directing the Secretary to “monitor whether manufacturers are reducing harvest rates below tested values for the purpose of bringing non-complying equipment into compliance,” and authorizing the Secretary to take steps to minimize manipulation if the Secretary determines “that there has been a substantial amount of manipulation with respect to harvest rates” of commercial ice makers. (42 U.S.C. 6316(f)(4)) As stated in the July 2006 proposed rule, DOE will monitor commercial ice maker harvest rates to determine if such manipulation occurs.

2. *Additional Product Classes.* The Howe Corporation (Howe) requested that DOE extend the ice maker standard to cover other types of automatic commercial ice makers beyond those that produce cube-type ice. (Howe, No. 6 at p. 1) Howe stated that a significant disparity has existed in the way manufacturers rate the productive capacities and energy consumption of their equipment for all types of

automatic ice makers. Howe also noted that DOE’s efforts to regulate automatic commercial ice makers will only apply to cube-type ice makers, which apply only to a portion of all automatic commercial ice makers that are manufactured and sold. (Howe, No. 6 at pp. 3–4) Howe concluded by requesting that DOE test procedures and requirements be amended and expanded to apply a revised ARI Standard 810 to all automatic ice makers regardless of ice-cube type. (Howe, No. 6 at pp. 3–4)

EPCA, as amended by section 136(d) of EPACT 2005, establishes energy and water conservation standards for automatic commercial ice makers that produce cube-type ice. (42 U.S.C. 6313(d)(1)) EPCA does not set energy conservation standards for other types of automatic commercial ice makers, including those that make flake-type ice. The purpose of adopting a test procedure for commercial ice makers in this rulemaking is to adopt methods for testing equipment for which EPACT 2005 set energy conservation standards, and to comply with the requirement that the test procedure for such ice makers be ARI Standard 810–2003, which applies only to the equipment that produces cube-type ice. Therefore, the test methods proposed in the July 2006 proposed rule provides for measuring the condenser water rate, harvest rate, and energy use of automatic commercial cube-type ice makers. 71 FR 42184, 85. DOE’s adoption of these provisions satisfies the general requirements for test procedures in 42 U.S.C. 6314(a)(2).

Consideration for expanding the standard for automatic commercial ice makers to include equipment that produces ice other than cube-type ice is outside the scope of this rulemaking proceeding. DOE acknowledged at the public meeting, however, that it is authorized to adopt standards for such other commercial ice makers (42 U.S.C. 6313(d)(2)), and if and when it seeks to adopt such standards, it intends to consider ice makers that produce flake-type ice. (Public Meeting Transcript, No. 18.8 at pp. 46, 48)

#### H. Commercial Prerinse Spray Valves

Section 135(b)(1) of EPACT 2005 amends section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subsection (14), which states that test procedures for measuring the flow rate for commercial prerinse spray valves “shall be based on [the] American Society for Testing and Materials [ASTM] Standard F2324, entitled ‘Standard Test Method for Pre-Rinse Spray Valves.’” Section 135(c)(4) amends EPCA to require that commercial prerinse spray valves manufactured on or after January 1,

2006, have a flow rate of 1.6 gallons per minute or less. (42 U.S.C. 6295(dd))

1. *Performance Test.* PG&E commented that DOE should adopt a cleanability test procedure as cleanability is a function of the prerinse spray nozzle. (Public Meeting Transcript, No. 18.8 at pp. 56–57) PG&E further suggested that DOE examine the characteristic of the prerinse spray valve because they do not want to see a problem with people having to use more hot water because of the inadequate capability of the nozzle. Overall, PG&E stated that various experts in the field have generated standards which are available for cleanability and they believe that cleanability does have energy-related consequences for the commercial prerinse spray valve.

While ASTM Standard F2324–03 covers water consumption flow rate and cleanability of prerinse spray valves, EPCA gives DOE the authority for establishing a standard that addresses flow rate only. It does not give DOE the authority to regulate other performance features of commercial prerinse spray valves, such as cleaning performance. Therefore, DOE has not considered adoption of the cleanability provisions of ASTM Standard F2324–03 and is adopting the test procedure as proposed in the July 2006 proposed rule. 71 FR 42185, 42213. ASTM Standard F2324–03 provides a sound basis for determining the flow rate and compliance with the standards for prerinse spray valves, which thereby complies with the requirements of section 343(b)(3) of EPCA. (42 U.S.C. 6314(a)(2))

#### I. Illuminated Exit Signs

Section 135(b)(1) of EPACT 2005 amends section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subsection (9), which provides that test procedures for illuminated exit signs “shall be based on the test method contained in version 2.0 of the EPA’s ‘ENERGY STAR Program Requirements for Exit Signs.’” Furthermore, section 135(c)(4) of EPACT 2005 added a new subsection (w) to 325 of EPCA, requiring illuminated exit signs manufactured on, or after January 1, 2006, to meet version 2.0’s performance requirements. Under version 2.0 such signs must have an input power demand of five watts or less per face. See 70 FR 60417; 10 CFR 431.206. EPA updated the “ENERGY STAR Program Requirements for Exit Signs” and published version 3.0, effective August 1, 2004.

Although subsection 323(b)(9) of EPCA (42 U.S.C. 6293(b)(9)), specifically identifies the test method in version 2.0 as the version on which the test

procedure for illuminated exits signs "shall be based," DOE proposed to incorporate by reference, the "ENERGY STAR Program Requirements for Exit Signs," version 3.0, effective August 1, 2004, because: (1) Version 3.0 is the most recent version of the ENERGY STAR test procedure; and (2) DOE believed the test methods in versions 2.0 and 3.0 are the same with regard to energy consumption and would result in the same measure of energy consumption. 71 FR 42186. DOE also proposed to include a requirement in the test procedure that the time duration of the test shall be sufficient to measure power consumption with a tolerance of  $\pm 1$  percent in order to provide a basis for comparable measurements and to clarify the test procedure. 71 FR 42185, 42211. These requirements were proposed in section 431.204 of 10 CFR Part 430. *Id.*

NEMA, Acuity Lighting Group (Acuity), and Osram Sylvania commented that the two versions of the ENERGY STAR are not the same. They commented that version 2.0 includes safety requirements such as brightness and visibility for illuminated exit signs that are not included in version 3.0. (NEMA, No. 71 at p. 2; Acuity Lighting Group, No. 5 at p. 1; Osram Sylvania, No. 16 at p. 1) NEMA also stated that the safety requirements included in version 2.0 for brightness and visibility are equally important as the input power demand test for energy consumption. (NEMA, No. 71 at p. 2) Furthermore, ACEEE stated that it worked with NEMA on the development of the EPCA provisions for illuminated exit signs and asserted that Congress made a conscious choice to reference version 2.0 of the ENERGY STAR program requirements for illuminated exit signs, even though version 3.0 was available. (ACEEE, No. 59 at p. 3)

Although inclusion of safety requirements in the "ENERGY STAR Program Requirements for Exit Signs" is laudable, EPCA provides DOE with the authority to set only energy conservation requirements for illuminated exit signs. As to test procedures in particular, DOE's authority under EPCA is limited to adoption of test methods and related provisions that concern energy consumption. (See 42 U.S.C. 6214) Thus, even though, as discussed below, DOE is adopting version 2.0 of the "ENERGY STAR Program Requirements for Exit Signs," as the DOE test procedure for this equipment under EPCA, DOE will require use only of those elements of version 2.0 that concern testing for energy consumption.

While DOE continues to believe that the two versions of the ENERGY STAR

criteria for illuminated exit signs provide the same measure of energy consumption, DOE is adopting the earlier version, the "ENERGY STAR Program Requirements for Exit Signs," version 2.0, since it was explicitly specified in EPACT 2005. DOE recognizes that several states have adopted the safety standards in version 2.0 of the "ENERGY STAR Program Requirements for Exit Signs." DOE believes that the concern for having two different specifications for testing the same product outweigh the consideration for using the most recent version of the specification. In addition, DOE realizes that both version 2.0 and version 3.0 of the "ENERGY STAR Program Requirements for Exit Signs" are equally available from the EPA. DOE is adopting version 2.0, which complies with the requirement in EPCA that the test procedures for such signs "be based on" that version. (42 U.S.C. 6293(b)(9))

In addition, NEMA also commented that the adoption of version 3.0 would allow the introduction of photo luminescent products, and would lessen the value of life safety requirements, which allow dim, photo luminescent signs to meet the requirements. (NEMA, No. 71 at p. 3) EPCA defines an "illuminated exit sign" as a "sign that \* \* \* is designed to be permanently fixed in place to identify an exit; and \* \* \* consists of an electrically powered integral light source \* \* \*." (Section 321(37) of EPCA (42 U.S.C. 6291(37) Photo luminescent light products do not include "electrically powered integral light sources."

Photo luminescent products are not covered equipment, and DOE test procedures and energy conservation standards do not apply to or affect these products. DOE's adoption of version 3.0 would not have allowed introduction of these products, and adoption of version 2.0 would not preclude their introduction.

NEMA has also stated that a requirement for time duration for the test is unnecessary because wattage is not dependent upon time, measurements change very little over time, and measurement instruments may not be capable of measuring within a  $\pm 1$  percent tolerance range. (NEMA, No. 71 at p. 4) Based on these comments, DOE reconsidered its proposed requirement that the time duration of the test be sufficient to measure power consumption with a tolerance of  $\pm 1$  percent. DOE agrees wattage is not dependent upon time and that measurements using different durations would not lack comparability because the input power is not a function of time. Therefore, DOE is not

adopting a time duration requirement in today's final rule.

#### *J. Traffic Signal Modules and Pedestrian Modules*

Section 135(b)(1) of EPACT 2005 amends section 323(b) of EPCA (42 U.S.C. 6293(b)) to add subsection (11), which states that test procedures for traffic signal modules and pedestrian modules shall be based on the test method used under the ENERGY STAR program for traffic signal modules, as in effect on August 8, 2005. Section 4 of the ENERGY STAR specification in effect at that time, the "ENERGY STAR Program Requirements for Traffic Signals," version 1.1, prescribes use of the test methods from the Institute for Transportation Engineers (ITE), "Vehicle Traffic Control Signal Heads (VTCSH)," Part 2, 1985, section 6.4.2, "Maintained Minimum Luminous Intensity." In addition, pursuant to Section 135(c)(4) of EPACT 2005, new subsection 325(z) of EPCA (42 U.S.C. 6295(z)) requires that traffic signal modules and pedestrian modules manufactured on or after January 1, 2006, meet the performance requirements specified in the ENERGY STAR program requirements for traffic signals, version 1.1, which preclude the maximum wattage and nominal wattage of these modules from exceeding certain specified levels. These requirements were codified in 10 CFR 431.226(a). 70 FR 60417.

1. *Definitions of Nominal and Maximum Wattage.* In the July 2006 proposed rule, DOE proposed to clarify both the standards and test conditions for these products by adopting the following definitions of nominal wattage and maximum wattage into section 431.222:

- Nominal wattage means the power consumed by the module when it is operated within a chamber at a temperature of 25 °C after the signal has been operated for 60 minutes.
  - Maximum wattage means the power consumed by the module after being operated for 60 minutes while mounted in a temperature testing chamber so that the lensed portion of the module is outside the chamber, all portions of the module behind the lens are within the chamber at a temperature of 74 °C, and the air temperature in front of the lens is maintained at a minimum of 49 °C. 71 FR 41286, 42212. DOE developed these definitions by drawing on language in the VTCSH test procedure and from consultations with ITE and proposed to place these definitions into § 431.222 of 10 CFR Part 430. *Id.*
- ITE commented that it supported the definitions for "nominal wattage" and

“maximum wattage” of the traffic signal or pedestrian module. (Public Meeting Transcript, No. 18.8 at p. 124) GELcore commented that it fully supports DOE’s desire to add definitions for wattage as set forth in the July 2006 proposed rule to reflect equal test conditions for either 25 °C or 74 °C of green and red signal modules as well as for pedestrian white/Portland orange signal modules. (GELcore, No. 60 at p. 1) However, GELcore also suggested modifying the proposed definitions under § 431.222 to include a duty cycle, specify a calibrated instrument, and specify “Design Qualification Testing” for the set-up of the testing chamber. (GELcore, No. 60 at p. 2)

DOE has determined that the clarifications suggested by GELcore are not necessary to define a traffic signal module or pedestrian module. The three clarifications suggested by GELcore are specifications for testing and are included in and accounted for in the VTCSH 2005 test procedure, which is being adopted in today’s final rule. VTCSH 2005 specifies the duty cycle, the testing-chamber set-up, the instrumentation to be used for testing, and further test criterion needed to determine the nominal and maximum wattages. Furthermore, DOE did not receive any comments objecting to the proposed definitions and believes all of the clarifications proposed by GELcore are subsumed in the methods of test in VTCSH 2005. DOE is therefore incorporating the definitions as proposed in the July 2006 proposed rule into § 431.222 of 10 CFR Part 431. 71 FR 41286, 42212.

**2. ITE VTCSH Test Procedure Version.** In the July 2006 proposed rule, DOE proposed to incorporate by reference the test methods for measuring the maximum and nominal wattages as contained in the test specifications in section 4 of the “ENERGY STAR Program Requirements for Traffic Signals,” version 1.1, and section 6.4.2 of VTCSH Part 2 (1985). However, in the July 2006 proposed rule, DOE pointed out that ITE recently updated the VTCSH to the June 27, 2005, version, referred to as VTCSH 2005. DOE did not propose to adopt the later VTCSH standard (VTCSH 2005) because (1) it would give stakeholders the perception that DOE extended coverage to products not covered by EPACT 2005; (2) it added a number of testing requirements DOE does not find necessary to meet the requirements of EPACT 2005; and (3) it wasn’t clear if the new VTCSH standard would give the same measure of energy consumption as the older version. 71 FR 42186–42187. DOE requested comments

on whether DOE should adopt the later VTCSH standard. *Id.*

DOE received numerous comments concerning the proposed test procedure for traffic signal modules and pedestrian modules in the July 2006 proposed rule. Johnson City, Tennessee (Johnson City) stated that the VTCSH Part 2 (1985) is an outdated specification that has been superseded by VTCSH 2005 and should not be adopted; instead, DOE should adopt the later version of the VTCSH test procedure. Johnson City further stated that State and Federal agencies will move away from using the old specification and will begin using the VTCSH 2005 for traffic signal modules and that adopting the outdated specification would cause confusion and could be less comprehensive. Consequently, Johnson City urged the use of the specifications that are currently active, VTCSH 2005, for traffic signal modules and pedestrian modules available from ITE. (Johnson City, No. 2 at p. 1) DOE received similar comments from over 106 States, cities, municipalities and ITE members echoing ITE’s comments and position for traffic signal modules and pedestrian modules.

ITE urged DOE to adopt the 2005 version of the VTCSH. ITE stated that the older version of the LED specification is no longer available through ITE and it will no longer publish the older version. (Public Meeting Transcript, No. 18.8 at p. 124) In addition, ITE stated that approximately 80 percent of public agencies use the 2005 LED specification to procure signal systems. (ITE, No. 4 and No. 8 at pp. 1–3) In addition, ITE believes that there exist technical difficulties in the design of LED signal modules that inhibit them from meeting two separate ITE specifications, namely, the 2005 version and the older version. (Public Meeting Transcript, No. 18.8 at p. 125) ITE stated that LED traffic signal modules would have to qualify for overall design and manufacturing to the 2005 specification to meet the need of the purchasing agencies and using an older version of the specification for DOE testing could require design and manufacturing changes. ITE urged DOE to use VTCSH 2005 for testing traffic signal modules to eliminate non-trivial cost increases associated with dual testing to two separate specifications and confusion within the industry. (ITE, No. 4 and No. 8 at pp. 1–3)

NEMA commented in support of the ITE position to use the current 2005 version of the LED circular specification (VTCSH 2005) because using an older version could cause confusion in the industry as agencies are beginning to

require compliance with the new ITE specification. NEMA stated that the VTCSH 2005 has different testing requirements than the VTCSH Part 2 (1985) and could conceivably require LED module manufacturers to provide additional testing to meet both the ITE specification (VTCSH 2005) and the ENERGY STAR Version 1.1 requirements (VTCSH 1985). (NEMA, No. 9 at p. 3)

Transportation and Energy Solutions, Inc., commented that the standards are ENERGY STAR specifications for LED traffic signals are obsolete and need to be updated. (Transportation and Energy Solutions, Inc, No. 100 at p. 1) Transportation and Energy Solutions also stated that the VTCSH specifications for traffic signal modules and pedestrian modules, regardless of the version, do not have any specific test methods for measuring wattage.

The Federal Highway Administration (FHWA) commented that test requirements in VTCSH do not have any requirements for measuring wattage. (Public Meeting Transcript, No. 18.8 at pp. 128–129) FHWA commented that the VTCSH test procedure only measures photometric and colorimetric output (*i.e.*, photometric and colorimetric performance) and that these performance requirements differ in the VTCSH 1985, 1998, and 2005 specifications. However, FHWA stated that if a product that is designed to the VTCSH 2005 performance specifications is tested under the 1998 testing requirements then the energy consumption results would be the same for red and green traffic signal modules and pedestrian modules covered by the EPACT 2005 standards. FHWA also stated that DOE would have to specify the watt meter or the type of tests that DOE requires to be conducted. FHWA suggests that DOE simply specify that during the qualification testing, the manufacturers conduct an RMS wattage measurement or do a measurement of the current consumption and voltage simultaneous to the measurement of the luminescence intensity. FHWA expressed the necessity to add the wattage requirements using the most straightforward methodology and concluded that the current and previous VTCSH specifications yield the same energy consumption results. (Public Meeting Transcript, No. 18.8 at p. 132)

In light of the comments received, DOE has reexamined the ENERGY STAR specifications for traffic signals in effect on August 8, 2005, and the VTCSH 2005 testing procedures it references. As DOE stated in the July 2006 proposed rule, DOE did not propose to adopt VTCSH 2005 because

DOE believed the specification extended coverage to products not covered by EPACT 2005, used a format that is not conducive to incorporation in the DOE test procedure, and added a number of testing requirements DOE does not find necessary to meet the requirements of EPACT 2005. 71 FR 42186–42187. While DOE recognizes that the VTCSH 2005 incorporates specifications for amber-colored modules, DOE points out that the energy conservation standards for nominal and maximum wattage specified by EPACT 2005 and codified in the October 2005 final rule are only applicable to red and green traffic signal modules and pedestrian modules, and thus, only the testing method for red and green traffic signal modules and pedestrian modules is applicable.

DOE recognizes the concerns of ITE, FHWA, and the numerous State and local municipalities about using two different specifications for testing the same product, and believes these concerns for using two different specifications for testing the same product outweigh the considerations for the additional tests included in VTCSH 2005. DOE has determined the testing requirements in VTCSH 2005, while more detailed, are a better reflection of current technologies used by traffic signal modules and pedestrian modules. While DOE stated in the July 2006 proposed rule that VTCSH 2005 added a number of testing requirements, DOE has determined that these provisions are mostly applicable to amber traffic signals and pedestrian modules, which are not covered by EPCA. Therefore, DOE has since determined that the testing requirements in the VTCSH 2005 will produce the same results as the VTCSH (1985) specification when testing red and green traffic signal modules or pedestrian modules and DOE is therefore adopting the 2005 version of the VTCSH standard. In addition, DOE is adding a provision, as suggested by FHWA, to specify the use of a wattmeter when testing a product for energy consumption, as follows:

Use a wattmeter having an accuracy of  $\pm 1\%$  to measure the nominal wattage and maximum wattage of a red or green traffic signal module or pedestrian module when conducting the photometric and colorimetric tests as specified by the testing procedures in VTCSH 2005.

The addition of the definitions of “maximum wattage” and “nominal wattage,” in conjunction with the adoption of the test conditions in VTCSH 2005, and the test method clarification above that is specified in § 431.224(b) provide a sound basis for measuring the maximum and nominal

wattages for traffic signal and pedestrian modules. DOE’s adoption of these test methods satisfy the requirements of section 323(b)(3) of EPCA (42 U.S.C. 6293(b)(3)). Adoption of these test methods also complies with EPCA’s requirement that the test procedures for traffic signal modules and pedestrian modules be based on the ENERGY STAR specification in effect on August 8, 2005. (42 U.S.C. 6293(b)) For these reasons, DOE is incorporating by reference the test methods for measuring the maximum and nominal wattages as contained in the test specifications in section 4 of the “ENERGY STAR Program Requirements for Traffic Signals,” version 1.1, and VTCSH 2005.

Finally, DOE also received several inquiries at the public meeting about generically referencing the current version of the ITE specifications, which would result in the test procedure being automatically updated when amended versions of the ITE are released. Section 553 of the Administrative Procedure Act (APA) describes the rulemaking process that an agency must follow in order to adopt a rule. (5 U.S.C. 553) If an agency were to adopt a rule that required compliance with the latest version of an industry standard, the agency rule would be amended without the agency having to follow the notice and comment process set forth by the APA. A rule requiring a manufacturer to test in accordance with the “latest version” of an industry test standard would be delegating DOE’s rulemaking authority to that entity, which DOE does not have the authority to do. In addition, all incorporations by reference in rules must be approved by the Office of the Federal Register, and the regulations of that Office limit incorporation to the edition of a document that is approved by the Director of the Federal Register (10 CFR 51.1(f)). DOE, therefore, is adopting a specific version of the industry test standard. Future amendments to the industry test standard would have to be considered by DOE in a separate rulemaking. This is the approach DOE has consistently taken when it has incorporated industry or consensus test procedures by reference into its regulations. See 10 CFR 430.22(a)(1).

3. *Pedestrian Modules.* As detailed by the July 2006 proposed rule, EPCA provides that the test procedures for both traffic signal and pedestrian modules must be based on the ENERGY STAR specification for traffic signal modules, (*i.e.*, 6.4.2 of VTCSH Part 2). 71 FR 42186. DOE stated in the proposed rule that VTCSH Part 2 does not mention or, by its terms, apply to pedestrian modules. However, DOE

determined upon careful consideration and review of VTCSH Part 2 that its test procedures for determining maximum and nominal wattages of traffic signal modules are equally applicable to testing pedestrian modules. DOE sought stakeholder comment on whether there were any technical reasons for developing testing requirements for maximum and nominal wattage for pedestrian modules that differ from the requirements for traffic signal modules. *Id.*

ITE commented at the public meeting that pedestrian modules are fundamentally different than traffic signal modules. ITE also mentioned that it is about to update the specification for pedestrian LED modules and will have specific test criteria in the specification that are pertinent to pedestrian modules. (Public Meeting Transcript, No. 18.8 at pp. 126–127. ITE submitted written comments urging DOE to use the most current ITE specification because manufacturers and public agencies will be confused if DOE prescribes an outdated version of the specification. (ITE, No. 18, p. 3)

DOE has considered all of the comments received and continues to believe that the test procedures in VTCSH 2005 provide a sound means of testing pedestrian modules as described in the July 2006 proposed rule. 71 FR 42186–87. ITE did not provide any additional data that would lead DOE to alter this conclusion. Further, as stated above, EPCA requires DOE to adopt a test procedure for pedestrian modules that is “based on” the ENERGY STAR program’s test method for traffic signal modules.

DOE has not had a chance to review ITE’s new test procedure for pedestrian modules and is unable to determine if this test procedure is “based on” the “ENERGY STAR Program Requirements for Traffic Signals,” Version 1.1. When appropriate, DOE prefers to adopt the most up-to-date industry test procedure that is available, but as previously stated, the updated test procedure referenced by ITE has not been published and DOE would be reluctant to adopt a draft that is still under consideration by industry. Furthermore, DOE is unwilling to delay action on adoption of a test procedure, to await ITE’s adoption of a new test procedure specification for pedestrian modules, because Federal standards for pedestrian modules are already in place under EPCA (42 U.S.C. 6295(z)) and DOE needs to put a test procedure in place so that manufacturers have a uniform means of testing this equipment. For these reasons, DOE is adopting “ENERGY STAR Program

Requirements for Traffic Signals,” version 1.1, and VTCSH 2005, for both traffic signal modules and pedestrian modules.

#### *K. Refrigerated Bottled or Canned Beverage Vending Machines*

Section 135(c)(4) of EPCACT 2005 amends section 325 of EPCA by adding, in part, new subsection 325(v)(2) (42 U.S.C. 6295(v)(2)), which directs the Secretary to prescribe, by rule, energy conservation standards for refrigerated bottled or canned beverage vending machines. Further, section 135(b)(1) of EPCACT 2005 amends section 323(b) of EPCA by adding, in part, new subsection 323(b)(15) (42 U.S.C. 6293(b)(15)), which states that test procedures for this equipment “shall be based on ANSI/ASHRAE Standard 32.1–2004, entitled “Methods of Testing for Rating Vending Machines for Bottled, Canned or Other Sealed Beverages.” Also, pursuant to section 135(b)(2) of EPCACT 2005, new subsection 323(f) of EPCA, 42 U.S.C. 6293(f)(1), directs the Secretary to prescribe testing requirements for refrigerated bottled or canned beverage vending machines no later than two years after the enactment of EPCACT 2005, that is, August 8, 2007. (42 U.S.C. 6293(f)(1)) This section also directs DOE to base such testing requirements on existing industry test procedures to the maximum extent practicable. (42 U.S.C. 6292(f)(2))

Pursuant to section 325(v)(2) of EPCA (42 U.S.C. 6295(v)(2)), DOE initiated the energy conservation standards rulemaking for refrigerated bottled or canned beverage vending machines on June 28, 2006, by publishing a **Federal Register** notice announcing the availability of the Framework Document, “Energy Conservation Standards for Refrigerated Bottled or Canned Beverage Vending Machines.” 71 FR 36715. The Framework Document describes the procedural and analytical approaches DOE anticipates using, and encourages and facilitates stakeholder input during the rulemaking.

DOE examined ANSI/ASHRAE Standard 32.1–2004 and concluded that it provides sound methods for testing the energy efficiency of a refrigerated bottled or canned beverage vending machine, and that it complies with the requirements of section 323(b)(3) of EPCA. (42 U.S.C. 6293(b)(3)) As further explained in the July 2006 proposed rule, DOE understands that the method has been widely used in the industry, which indicates that it is not unduly burdensome to conduct. 71 FR 42187. Therefore, DOE proposed to incorporate this test procedure by reference into 10 CFR Part 431 for the measurement of

energy consumption and determination of capacity of this equipment. *Id.*

In the July 2006 proposed rule, DOE also proposed that dual-voltage refrigerated bottled or canned beverage vending machines be tested at the lower nameplate voltage, to characterize the energy consumption. 71 FR 42187; 42214. Testing at the lower voltage is consistent with ASHRAE Standard 32.1–2004. DOE’s understanding is that test results for a given piece of dual-voltage equipment would not be affected by the voltage during testing.

1. *ANSI/AHAM HRF–1–2004 Refrigerated Volume Calculation.* ANSI/ASHRAE Standard 32.1–2004 includes a method for determining the capacity of vending machines, referred to in ANSI/ASHRAE Standard 32.1–2004 as “vendible capacity.” Vendible capacity consists essentially of the maximum number of units of product a vending machine can hold for sale. DOE updated the proposed test procedures for refrigerated bottled or canned beverage vending machines on October 3, 2006 by publishing a Supplemental Notice of Proposed Rulemaking (SNOPR), 71 FR 58308, and discussing the proposals at the September 26, 2006 public meeting. (Public Meeting Transcript, No. 18.8 at pp. 175–176) DOE proposed to add to its test procedure an additional, alternative means for measuring the capacity of refrigerated bottled or canned beverage vending machines, namely the method to measure “refrigerated volume” that is set forth in ANSI/AHAM HRF–1–2004, “Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers.”

DOE stated that refrigerated volume may be a better alternative to vendible capacity because, among machines that are designed and intended for vending 12-ounce cans, there are a variety of dispensing mechanisms and storage arrangements that lead to potentially different refrigerated volumes for different machines with the same vendible capacity. In addition, EPCA has historically used upper limits on energy consumption as a function of volume for the purposes of establishing energy conservation standards for refrigeration equipment. 71 FR 58310.

Royal Vendors commented that it agrees with DOE’s proposal to use ASHRAE Standard 32.1–2004 as the test procedure for refrigerated bottled or canned beverage vending machines. (Public Meeting Transcript, No. 18.8 at p. 49) Royal Vendors further commented in support of using refrigerated volume for measuring the capacity of refrigerated bottled or canned beverage vending machines. (Public Meeting Transcript, No. 18.8 at

p. 50) There were no negative comments regarding either DOE’s proposal to adopt ASHRAE Standard 32.1–2004 or to add refrigerated volume to its test procedure as an additional metric for measuring capacity.

DOE is adopting the updated test procedure, ANSI/ASHRAE Standard 32.1–2004, for measuring equipment energy consumption and for determining the “vendible capacity” of refrigerated bottled or canned beverage vending machines, as well as the method in ANSI/AHAM HRF–1–2004 for measuring the “refrigerated volume” of such machines. As to the latter, DOE is incorporating by reference in section 431.294 of Subpart Q to 10 CFR Part 431, section 5.2 of ANSI/AHAM HRF–1–2004, excluding subsections 5.2.2.2 through 5.2.2.4, which are not relevant to measuring refrigerated volume for refrigerated bottled or canned beverage vending machines.

In the SNOPR, DOE recognized that sections 4.2 and 5.2 of ANSI/AHAM HRF–1–2004 address the measurement of refrigerated volume in household refrigerators and freezers, respectively, and do not directly address refrigerated bottled or canned beverage vending machines for which no commercial standards exist. Nevertheless, DOE has determined that the methodology described in section 5.2 includes methods for the measurement of refrigerated volumes that are applicable to refrigerated bottled or canned beverage vending machines, namely the gross interior volume contained within the refrigerated space. Although EPCA defines such equipment as a type of commercial refrigerator, the language in section 5.2 for household freezers is more appropriate than the language in section 4.2 for household refrigerators. The methodology in section 5.2 is more relevant to the type of compartment(s) being measured in a refrigerated bottled or canned beverage vending machine. For example, section 5.2 includes the measurement of special features of a freezer such as can or package racks and dividers or dispensers, which are also found in refrigerated bottled or canned beverage vending machines.

2. *Voltage.* No comments were received regarding DOE’s proposal to test dual-voltage equipment at the lower voltage. DOE is adopting ANSI/ASHRAE Standard 32.1–2004 with a modification in Section 6.2, “Voltage and Frequency,” to test equipment with dual nameplate voltages at the lower of the two voltages only, as proposed into § 431.294 of 10 CFR Part 431. 71 FR 42214.

### *L. Commercial Package Air-Conditioning and Heating Equipment*

Section 136(f)(1)(A) of EPCACT 2005 amends section 343(a)(4)(A) and (B) of EPCA (42 U.S.C. 6314(a)(4)(A) and (B)) to require test procedures for air-cooled package air-conditioning and heating equipment rated at or above 240,000 and below 760,000 British thermal units per hour (Btu/h) cooling capacity (defined as "very large" equipment under section 136(a)(3) of EPCACT 2005, 42 U.S.C. 6311(8)(D)). This provision provides that the test procedure for such equipment shall be the "generally accepted industry testing procedures or rating procedures developed or recognized by the Air-Conditioning and Refrigeration Institute or by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, as referenced in ASHRAE/IES Standard 90.1 and in effect on June 30, 1992." (42 U.S.C. 6314(a)(4)(A)) The provisions also provides that DOE must adopt any amendment to such test procedure, unless it determines that the amended test procedure would fail to meet EPCA's general requirements for test procedures for commercial equipment. (42 U.S.C. 6314(a)(4)(B))

As explained in the July 2006 proposed rule, the test procedures in effect on June 30, 1992, for very large commercial package air-conditioning and heating equipment were ARI Standard 340-1986, "Commercial and Industrial Unitary Heat Pump Equipment," and ARI Standard 360-1986, "Commercial and Industrial Unitary Air-Conditioning Equipment." 71 FR 42187. In 2000, ARI replaced these standards with ARI Standard 340/360-2000, "Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment," but this new version did not alter the efficiency test methods or the calculation procedures that were in ARI Standards 340 and 360 as in effect on June 30, 1992, nor the measured efficiencies for the equipment being tested. *Id.* Subsequently, in an October 21, 2004, direct final rule, "Test Procedures and Efficiency Standards for Commercial Air Conditioners and Heat Pumps," DOE adopted test procedures for small commercial package air-conditioning and heating equipment (cooling capacities less than 135,000 Btu/h), and for large commercial package air-conditioning and heating equipment (cooling capacities at or above 135,000 Btu/h and less than 240,000 Btu/h) into section 431.96 of 10 CFR Part 431. 69 FR 61962. Under that rule, DOE adopted ARI Standard 340/360-2000, the most recent ARI test procedure at the time, for commercial

package air-conditioning and heating equipment with cooling capacities at or above 135,000 Btu/h and less than 240,000 Btu/h. 69 FR 61971; 10 CFR 431.96. For equipment with cooling capacities at or above 65,000 Btu/h and less than 135,000 Btu/h, other than water-source equipment, DOE adopted ARI Standard 340/360-2000 with four modifications (taken from ARI Standard 210/240-2003) as the applicable test procedure. 69 FR 61971-72; 10 CFR 431.96. These four modifications as shown in Table 2 of section 431.96 of 10 CFR Part 431, were necessary to ensure the proper testing of certain types, or configurations, of equipment. 69 FR 61965-66.

ARI has since published ARI Standard 340/360-2004, which revised ARI Standard 340/360-2000, by adding the four modifications DOE had adopted in the October 2004 direct final rule for equipment with cooling capacities at or above 65,000 Btu/h and less than 135,000 Btu/h. As DOE pointed out in the July 2006 proposed rule, ARI Standard 340/360-2004, "Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment," is now the most current industry test procedure for all types of this equipment, including very large commercial package air-conditioning and heating equipment. 71 FR 42187-88.

In response to the publication of the July 2006 proposed rule, ARI commented in support of DOE's proposal to adopt ARI Standard 340/360-2004, for commercial package unitary air conditioners and heat pumps of all three size categories. (Public Meeting Transcript, No. 18.8 at p. 52)

For the reasons stated in the July 2006 proposed rule, 71 FR 42188, in accordance with 42 U.S.C. 6314(a)(4)(B), DOE is incorporating ARI Standard 340/360-2004 by reference into 10 CFR Part 431 as the test procedure for very large air-cooled commercial package air-conditioning and heating equipment. In addition, DOE is also replacing the references to ARI Standard 340/360-2000, as well as the modifications to the standard, with references to ARI Standard 340/360-2004 in the test procedures in § 431.96 of 10 CFR Part 431 for all small and large commercial package air-conditioning and heating equipment (cooling capacities equal to, and greater than, 65,000 Btu/h, but less than 240,000 Btu/h), except for water-source heat pumps with cooling capacities of less than 135,000 Btu/h. For the latter, the applicable test procedure is ISO Standard 13256-1 1998. As indicated above, ARI Standard 340/360-2004 changes the previous

version of ARI Standard 340/360 only by incorporating the four provisions in Table 2 of § 431.96 of 10 CFR Part 431, which were already a part of DOE's current test procedures. Thus, incorporation of ARI Standard 340/360-2004 will not alter DOE's test procedure for small and large equipment as explained in the July 2006 proposed rule. 71 FR 42187.

### *M. Commercial Refrigerators, Freezers, Refrigerator-Freezers, and Ice-Cream Freezers*

1. *Use of ARI Standard 1200-2006 Test Procedure for Equipment for Which EPCA Prescribes Standards.* Section 136(f)(1)(B) of EPCACT 2005 amends section 343 of EPCA by adding subsection (a)(6)(A)(i), (42 U.S.C. 6314(a)(6)(A)(i)), which prescribes test procedures for commercial refrigerators, freezers, and refrigerator-freezers, generally. New subsection 343(a)(6)(A)(ii) requires that ASHRAE Standard 117, as in effect on January 1, 2005, shall be the initial test procedure for the types of equipment to which standards are applicable under section 342(c)(2)-(3) of EPCA, (Section 136(c) of EPCACT 2005: 42 U.S.C. 6313(c)(2)-(3)) including: (1) Commercial refrigerators, freezers, and refrigerator-freezers with a self-contained condensing unit and designed for holding temperature applications; and (2) commercial refrigerators with a self-contained condensing unit, designed for pull-down temperature applications, and with transparent doors. (42 U.S.C. 6314(a)(6)(A)(ii)) Also new subsection 343(a)(6)(E) provides that, if ASHRAE Standard 117 is amended, the Secretary must address whether to amend the test procedures for this equipment. (42 U.S.C. 6314(a)(6)(E)) ASHRAE Standard 117-2002, "Method of Testing Closed Refrigerators," was in effect on January 1, 2005.

ASHRAE Standard 117-2002 was the initial test procedure mandated by subsection 343(a)(6)(A)(ii) of EPCA, (42 U.S.C. 6314(a)(6)(A)(ii)), that is, it was the standard in effect on January 1, 2005. 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. Consistent with the statutory mandate, DOE reviewed ASHRAE Standard 72-2005 in the July 2006 proposed rule, pursuant to subsection 343(a)(6)(E), (42 U.S.C. 6314(a)(6)(E)). ASHRAE Standard 72-2005 clarifies or modifies certain door opening requirements, definitions, and the reporting of results, as well as provides improved precision by

delineating the exact specifications for testing conditions. 71 FR 42188. Based on the review, DOE determined in the July 2006 proposed rule that no basis exists for concluding that the latest ASHRAE Standard 72–2005 fails to meet the general requirements for test procedures in 42 U.S.C. 6314(a)(2) and (3). *Id.*

During the September 26, 2006, public meeting, ARI (Public Meeting Transcript, No. 18.8 at p. 39) and Hill Phoenix (Public Meeting Transcript, No. 18.8 at p. 42) stated that EPACT 2005 includes language that directs DOE to review rating procedures approved by ANSI, that ARI Standard 1200–2006 was approved by ANSI as of August 28, 2006 (Section 136(c) of EPACT 2005: 42 U.S.C. 6314(a)(6)(A)(i)(II)), and that ARI Standard 1200–2006 includes the test procedures in ASHRAE Standard 72–2005 as well as the rating temperatures prescribed in the EPACT 2005 amendments to EPCA. (Public Meeting Transcript, No. 18.8 at p. 39) ARI and Hill Phoenix urged DOE to consider adoption of ARI 1200–2006 in lieu of ASHRAE Standard 72–2005. *Id.*

DOE has reviewed ARI Standard 1200–2006 and has found that it specifically references ASHRAE Standard 72–2005 as the method of testing commercial refrigeration equipment and would therefore give identical test results for the measurement of energy consumption. As stated above, DOE determined that ASHRAE Standard 72–2005 meets EPCA requirements for the DOE test procedure for the equipment covered by the standards under section 342(c)(2)–(3) of EPCA. Thus, ARI Standard 1200–2006 also meets these requirements. Additionally, ARI Standard 1200–2006 is ANSI approved and includes the applicable rating temperatures for this equipment prescribed under subsection 343(a)(6)(B) of EPCA (42 U.S.C. 6314(a)(6)(B)). DOE is therefore adopting in this final rule ARI Standard 1200–2006 as the test procedure for equipment to which standards are applicable under section 342(c)(2)–(3) of EPCA.

**2. Use of ARI Standard 1200–2006 Test Procedure for Which EPACT 2005 Directs DOE To Develop Test Procedures.** New section 343(a)(6)(C) of EPCA (Section 136(f)(1)(B) of EPACT 2005, 42 U.S.C. 6314(a)(6)(C)), in effect, directs DOE to develop test procedures for “products for which standards will be established under section 342(c)(4),” *i.e.*, (1) ice-cream freezers; (2) commercial refrigerators, freezers, and refrigerator-freezers with a self-contained condensing unit without doors; and (3) commercial refrigerators,

freezers, and refrigerator-freezers with a remote condensing unit. ARI recently developed methods for testing such commercial refrigeration equipment in ARI Standard 1200–2006, “Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets.” DOE reviewed ARI Standard 1200–2006 in the July 2006 proposed rule and found that it includes product temperature rating specifications that require maintaining test package temperatures during the tests, which is important for a valid comparative evaluation of energy consumption among products. These rating temperature provisions provide a basis for accurate efficiency determinations, as required under EPCA. (Section 136(f)(1)(B) of EPACT 2005; 42 U.S.C. 6314(a)(6)(C)). 71 FR 42188.

In addition, ARI Standard 1200–2006 requires performance tests to be conducted according to the ASHRAE Standard 72 test method, which DOE believes, as mentioned above, to be a sound method that will produce results that accurately reflect the efficiency of the products tested. DOE also stated in the July 2006 proposed rule that it understands that the method has been widely used in the industry, thus indicating that it is not unduly burdensome to conduct. 71 FR 42188. Finally, DOE reviewed the calculation methods as well as the definitions of terms used in the test procedure, and determined that they help to produce accurate results as to the efficiency of the products being tested.

DOE proposed in the July 2006 proposed rule to incorporate ARI Standard 1200–2006 by reference into § 431.64 of 10 CFR Part 431 for ice-cream freezers; commercial refrigerators, freezers, and refrigerator-freezers with a self-contained condensing unit and without doors; and for commercial refrigerators, freezers, and refrigerator-freezers with a remote condensing unit. 71 FR 42188.

ARI commented that it supports DOE’s proposal to adopt ARI Standard 1200–2006 as the Federal test procedure for ice-cream freezers; commercial refrigerators, freezers, and refrigerator-freezers with a self-contained condensing unit without doors; and commercial refrigerators, freezers, and refrigerator-freezers with a remote condensing unit. (ARI, No. 63 at p. 2) No other comments were received regarding this proposal. DOE is adopting ARI Standard 1200–2006 in today’s final rule into § 431.64 of 10 CFR Part 431.

**3. Ice-Cream Freezer Rating Temperature.** As mentioned above, new section 343(a)(6) of EPCA (Section 136(f)(1)(B) of EPACT 2005, 42 U.S.C.

6314(a)(6)), in effect directs DOE to develop test procedures for ice-cream freezers. DOE proposed to incorporate ARI Standard 1200–2006 by reference into 10 CFR Part 431 for ice-cream freezers in the July 2006 proposed rule. 71 FR 42188, 42209.

ARI commented that it generally supports DOE’s proposal to adopt ARI Standard 1200–2006 as the federal test procedure for ice-cream freezers. (ARI, No. 63 at p. 2) ARI Standard 1200–2006 specifies a rating temperature for ice-cream freezers of  $-5^{\circ}\text{F}$ . ARI and Hill Phoenix stated that they believe a  $-15^{\circ}\text{F}$  rating temperature is more appropriate for ice-cream freezers than  $-5^{\circ}\text{F}$  because there is not much difference between rating freezers at the  $-5^{\circ}\text{F}$  ice-cream freezer rating temperature and  $0^{\circ}\text{F}$  freezer rating temperature (the rating temperature used for conventional, general application freezers), and that the bulk of the equipment that is specifically used for the dispensing and display of ice-cream operates at  $-15^{\circ}\text{F}$ . (Public Meeting Transcript, No. 18.8 at pp. 40, 42) ARI believes that the  $-15^{\circ}\text{F}$  rating temperature would be a much better representation of ice-cream freezer operation than the  $0^{\circ}\text{F}$  rating temperature. *Id.* Zero Zone stated that a survey of the industry found that freezers specifically designed for ice-cream products utilized components and are designed for an integrated average product temperature of  $-15^{\circ}\text{F}$ . (Zero Zone, No. 81 at p. 1) ACEEE, on the other hand, endorsed the  $-5^{\circ}\text{F}$  ice-cream freezer rating temperature because that is the temperature the ENERGY STAR criteria are based on. (ACEEE, No. 59 at p. 1)

While DOE recognizes that ENERGY STAR criteria and claims are based on testing at  $-5^{\circ}\text{F}$ , the ENERGY STAR program is specific to self-contained commercial freezers with solid doors. ENERGY STAR does not include most ice-cream freezers, while DOE’s coverage of ice-cream freezers is much broader. In light of the new information presented above, DOE now believes testing at  $-5^{\circ}\text{F}$  would lead to results that are not representative of the true energy consumption of freezers specifically designed for ice-cream products. In consideration of the above, DOE has determined that a rating temperature of  $-15^{\circ}\text{F}$  is more appropriate for ice-cream freezers and is therefore adopting in this final rule  $-15.0^{\circ}\text{F}$  ( $\pm 2^{\circ}\text{F}$ ) as the rating temperature for ice-cream freezers, as a modification to the referenced ARI Standard 1200–2006.

Since ice-cream freezers generally operate at  $-15.0^{\circ}\text{F}$ , DOE believes

adoption of this rating temperature is warranted by the requirement that DOE test procedures “shall be reasonably designed to produce test results which reflect [the] energy efficiency” of the equipment being tested (42 U.S.C. 6314(a)(2)). This is essentially the same reasoning that supported the NOPR proposal of a rating temperature of  $-5.0^{\circ}\text{F}$ . *Id.*

#### 4. ANSI/AHAM Standard HRF-1.

EPCA defines refrigeration equipment compartment volumes, for purposes of standards for all covered commercial refrigerators, freezers, and refrigerator-freezers, in terms of ANSI/AHAM Standard HRF-1-1979, “Association of Home Appliance Manufacturers Standard for Household Refrigerators, Combination Refrigerator-Freezers, and Household Freezers” (Section 136(c) of EPCA 2005; 42 U.S.C. 6313(c)(1)(A) and (B)) DOE proposed to incorporate ANSI/AHAM Standard HRF-1-1979 by reference into section 431.63 of 10 CFR Part 431 in the July 2006 proposed rule. 71 FR 42208. DOE included in proposed § 431.64(b)(3) of the July 2006 proposed rule the applicable rating temperatures for this equipment prescribed under subsection 343(a)(6)(B) of EPCA. (42 U.S.C. 6314(a)(6)(B)) In the October 3, 2006, SNOPI (71 FR 58308, 58311), DOE proposed to replace references to ANSI/AHAM HRF-1-1979, with references to ANSI/AHAM HRF-1-2004, at 10 CFR 431.63(b)(2) of the July 2006 proposed rule for commercial refrigerators, freezers, and refrigerator-freezers, 71 FR 42208, and in the existing rule for such equipment under 10 CFR 431.66(a).

ARI commented that it agrees with the suggestion by AHAM that the referenced version of the ANSI/AHAM Standard HRF-1 should be updated to the latest 2004 version. (Public Meeting Transcript, No. 18.8 at p. 41) DOE has reviewed both versions and found that the methodologies for measuring refrigerated compartment volumes are identical. Aside from purely editorial changes, the only language changes in the 2004 version serve to clarify the testing methodology. 71 FR 58310. The 2004 version is also more readily available than the 1979 version. For these reasons, DOE is adopting in this final rule ANSI/AHAM Standard HRF-1-2004 for determining compartment volumes for this equipment.

#### N. Battery Chargers

In the July 2006 proposed rule, to address Subsection 325(u)(1)(A) of EPCA (42 U.S.C. 6295(u)(1)(A)), which requires DOE to prescribe test procedures for battery chargers, DOE proposed to incorporate by reference

into 10 CFR Part 430, with limited modifications, the test procedure presented in sections 4 and 5 of EPA’s ENERGY STAR “Test Methodology for Determining the Energy Performance of Battery Charging Systems, December 2005” (the ENERGY STAR test method). Subsection 325(u)(1)(B) of EPCA directs the Secretary to consider existing definitions and test procedures for measuring the energy consumption of battery chargers in standby mode and other modes. DOE stated in the July 2006 proposed rule that it believes its proposal fulfills the statutory requirements. 71 FR 42190. DOE received several comments on this proposal, spanning a range of issues from the scope of coverage to the test method itself. In today’s final rule, DOE is finalizing its incorporation by reference of sections 4 and 5 of the ENERGY STAR test method, with the modifications discussed in the proposed rule. 71 FR 42190-1.

1. *Scope of Coverage.* In the July 2006 proposed rule, DOE proposed to adopt the statutory definition of a battery charger without modification. In that notice, DOE also proposed to refine the scope of the test procedure, so that it would have the same scope of applicability as the test method used by the ENERGY STAR program. 71 FR 42206. DOE proposed that the new scope of coverage be part of section 1 of Appendix Y to Subpart B of CFR Part 430. 71 FR 42206.

On the issue of scope of coverage for the battery charger test procedure, PG&E expressed concern about the limitations being placed by DOE on the applicability of the test procedure so early in the process. (PG&E, No. 12 at p. 3, No. 18.8 at p. 149, and No. 77 at p. 4) AHAM and PTI indicated that they believed the scope of coverage proposed by DOE represented the appropriate range of products on the market, which they feel should be included in DOE’s rulemaking for battery chargers, limiting the scope of coverage to the residential sector. (AHAM, No. 18.8 at p. 157 and No. 84 at pp. 2-3; PTI No. 73 at p. 2) AHAM and PTI also commented that the range of wattages considered under DOE’s scope should include battery chargers between 0 and 2 watts, so the complete range of power ratings would span from 0 to 300 watts. (AHAM, No. 18.8 at pp. 156-157 and No. 84 at p. 3; PTI No. 73 at p. 2). AHAM and Philips commented that inductively coupled devices should be included in the scope of the test procedure, even though these products were exempt from the ENERGY STAR battery charger program. (AHAM, No. 18.8 at p. 156 and No. 84 at p. 3; Philips, No. 68 at p. 2) Finally,

AHAM commented that the scope of coverage should include consumer products and those commercial products that are virtually identical to the consumer products, such as cordless rechargeable hair trimmers. (AHAM, No. 84 at p. 3)

DOE’s proposed scope of coverage, proposed in Appendix Y to Subpart B of Part 430, Uniform Test Method for Measuring the Energy Consumption of Battery Chargers, attempted to refine the applicability of the test procedure to the same subset of battery chargers covered under the ENERGY STAR program. After careful consideration of stakeholder concerns and further review of the statute, DOE decided to remove the scope of coverage in Appendix Y from today’s final rule. DOE now recognizes that the test procedure itself is relatively simple and can apply to a broad range of battery chargers, not only those units included in the scope of the ENERGY STAR program. Thus, the test procedure will be applicable generally to battery chargers for consumer products (i.e., without limitation to specific wattage ranges or application types).

EPCA defines “battery charger” as “a device that charges batteries for consumer products, including battery chargers embedded in other consumer products.” (42 U.S.C. 6291(32)) DOE is adopting this definition verbatim in today’s final rule, and is modifying the scope of the test procedure to apply simply to battery chargers, as just defined.

In parallel with this rulemaking, DOE is conducting a determination analysis to ascertain whether energy conservation standards are technologically feasible and economically justified, and would result in significant energy savings, for battery chargers (and external power supplies). In that proceeding, DOE will initially decide which products are within the EPCA definition of “battery charger,” and will address all such products in conducting its analysis. To the extent DOE decides that products considered to be external power supplies are actually battery chargers and should be regulated as such, DOE will include such products in its analysis for battery chargers. If the determination as to battery chargers is positive, DOE will refine its scope of coverage as appropriate, through its public regulatory process, so that standards will cover only products for which they are warranted. DOE will also work to ensure that any resulting energy conservation standards will be appropriate for the various classes of

battery chargers operating consumer products.

PG&E and NRCan both submitted comments in which they appear to advocate that DOE adopt a single, inclusive test procedure that would apply to both external power supplies and battery chargers, and that DOE make a determination later about which products should be classified as an external power supply or a battery charger. (PG&E, No. 12 at pp. 1–2 and No. 77 at p. 2; NRCan, No. 86 at p. 1) DOE appreciates these comments, but disagrees with this approach. First, the statute separately defines external power supplies and battery chargers. (42 U.S.C. 6291(32) and (36)) Although EPCA sets forth in a single section the same process and criteria for DOE to develop test procedures and standards for these products, 42 U.S.C. 6295(u), the statute provides no indication that they should be treated as a single product. Second, DOE believes that to do so, even as a temporary measure, would be technically inappropriate. DOE's preliminary technical analysis of battery chargers and external power supplies has shown that these two devices have fundamentally different designs because they provide completely different utility to consumers. Generally, battery chargers are designed to be constant current devices while external power supplies are designed to be constant voltage devices. Moreover, the same test method cannot be employed to accurately determine the energy use and efficiency of both products under normal use by consumers. Therefore, DOE proposed and is adopting today one test procedure for battery chargers, and a different one for external power supplies. DOE is not classifying battery chargers as external power supplies, or otherwise treating them as a single product, even as a temporary measure. This interpretation was supported by a comment from AHAM, which asserted that DOE should require that a battery charger, including components of a battery charging system that together constitute a battery charger, be tested by the test procedure DOE adopts for battery chargers, and not by a test procedure for external power supplies or some other test procedure. (AHAM, No. 84 at p. 2)

DOE recognizes that in limited instances the distinction between a battery charger and an external power supply may not always be clear. For some power converting devices, such as those powering laptop computers or hand-held video cameras, the power converter can both charge a battery and operate the consumer product, even if

the battery is completely discharged or removed. For these devices, which could understandably be classified either battery chargers or external power supplies, DOE will work cooperatively with stakeholders to develop clear guidelines that remove any ambiguity as to which of the two test procedures adopted today would apply.

DOE is planning to hold a "Scoping Workshop" to receive public comment on the respective scope of coverage and applicability for battery chargers and external power supplies, which is a requirement of EPCA under subsection 325(u)(1)(D). (42 U.S.C. 6295(u)(1)(D)) DOE's initial understanding of the principal difference between a battery charger and an external power supply concerns whether the power-converting device is able to operate the consumer product, independent of the battery. In other words, if the power converter can operate a consumer product which has the batteries removed (or has completely discharged batteries installed), then that power converter is considered to be an external power supply. If, on the other hand, a consumer product is not fully operational when the battery is removed or is completely discharged, even when the power converter is connected to the device and plugged into the wall outlet, then the device is considered to be a battery charger. DOE will be discussing this initial understanding, as well as other comments and clarifications stakeholders have about the scope of coverage and applicability for battery chargers and external power supplies, in the Scoping Workshop.

*2. Modes of Test, including Active Mode.* With regard to the test method itself, there were dissenting viewpoints as to whether DOE should include active mode testing in its procedure. Under the DOE proposal, battery chargers would only be tested during standby and maintenance mode. 71 FR 42190–42191. Several stakeholders commented that DOE should consider the measurement of active mode in its battery charger test procedure. (PG&E, No. 12 at p. 2, No. 18.8 at pp. 168 and 173, and No. 77 at p. 3; NRCan, No. 18.8 at pp. 164–165, CEC No. 18.8 at p. 165; ACEEE No. 59 at p. 3) PG&E stated that active mode is the second most energy consuming mode of operation for these products, and is therefore deserving of consideration (PG&E, No. 18.8 at pp. 150–151; No. 77 at p. 3) PG&E informed DOE that the California Energy Commission (CEC) is working to develop an active mode test procedure for battery chargers, and provided DOE with copies of draft versions of the test method and stakeholder comments on those drafts. (PG&E, No. 18.8 at p. 166

and No. 77 at pp. 3–4) PG&E asked that DOE acknowledge the draft CEC test method as a viable alternative to the ENERGY STAR test procedure for battery chargers. (PG&E, No. 77 at p. 4)

PG&E and ACEEE also commented that EPCA requires DOE to evaluate energy consumed by battery chargers considering standby mode and other operating modes. PG&E and ACEEE stated that they found it problematic that DOE's proposal only considers standby mode and maintenance mode, as EPCA calls for "other modes" and maintenance mode represents only one additional mode. (PG&E, No. 12 at p. 2, No. 18.8 at p. 150, No. 77 at p. 3; ACEEE No. 59 at p. 3) Finally, PG&E commented that the incremental testing burden of including the measurement of power consumption during active mode was small, given that the existing ENERGY STAR test procedure DOE proposed to adopt requires charging a battery as the first step. (PG&E, No. 18.8 at pp. 167–168 and No. 77 at p. 4)

AHAM, CEA, Wahl, Philips, and PTI commented that DOE should not include testing for active mode in its test procedure. (AHAM No. 18.8 at pp. 159–161 and No. 84 at pp. 2, 4–5; CEA No. 18.8 at p. 172, Wahl, No. 67 at p. 1; Philips No. 68 at p. 1; PTI No. 73 at p. 3) AHAM stated that testing active mode is not in keeping with the overall mission of reducing standby energy consumption. (AHAM, No. 18.8 at p. 160) AHAM is concerned that active mode testing will create considerable complexities, stating that in order to have accurate tracking of active mode, a test procedure would need to bring in elements of the usage patterns of the products. (AHAM, No. 18.8 at p. 160 and No. 84 at pp. 2 and 4) AHAM further commented that EPA considered active mode in its development of the ENERGY STAR program for battery chargers, and a study it completed found that the inclusion of active mode did not reveal additional energy savings opportunities. (AHAM, No. 18.8 at pp. 161 and 170 and No. 84 at pp. 2 and 4) PTI also commented that it was involved in the development of the ENERGY STAR program for battery chargers, and active mode had been part of the scope of investigation. According to PTI, the ENERGY STAR development team came to the conclusion that active mode offered no benefit with respect to measuring that mode, so it was excluded from the final standard. (PTI, No. 18.8 at p. 163 and No. 73 at p. 3) Wahl and CEA commented that if DOE were to include active mode in its test procedure, it must incorporate it with variable timeframes for different types of products. (Wahl, No. 18.8 at p. 171,

CEA, No. 18.8 at p. 172) In particular, Wahl is concerned that the duty cycle of a rechargeable shaver is significantly different from that of a vacuum cleaner or cordless drill. (Wahl, No. 18.8 at p. 171)

DOE considered all the comments concerning the inclusion of active mode in its test procedure, and decided to finalize its test procedure as proposed, based on the ENERGY STAR test procedure for battery chargers, which measures stand-by mode and maintenance mode.

DOE recognizes that analytical efforts are underway to develop and finalize active mode test methods for battery chargers; however, the statutory deadline for codifying a test procedure for this product does not allow DOE to postpone publication. (42 U.S.C. 6295(u)) DOE recognizes that at least one draft battery charger test procedure including active mode does exist, but it is still being developed, and DOE has therefore not been able to review a final test method and determine its accuracy and repeatability for measuring active mode energy consumption by battery chargers. That said, DOE does recognize the potential importance and potential energy savings of regulating active mode, and therefore is reserving a section in Appendix Y to Subpart B of Part 430 for Active Mode measurement and incorporating the ENERGY STAR definition for Active Mode in that same appendix. DOE intends to continue to study the issue of active mode for battery chargers while observing the test procedure development processes in California, Canada and elsewhere. If DOE finds the active mode to be a necessary part of determining and capturing energy savings for battery chargers, DOE will work through its public regulatory process to explore development of an active mode test procedure that takes into consideration concerns from all stakeholders.

3. *Definitions.* With respect to the test method, AHAM and PTI recommended that DOE include in its final rule several definitions contained in the ENERGY STAR requirements for battery chargers that would further clarify the application of DOE's test procedure for battery chargers. (AHAM, No. 18.8 at p. 159; PTI, No. 73 at p. 3) These terms include: "active-mode," "battery," "multi-port chargers" and "multi-voltage a la carte chargers." DOE provided an explanation of these terms in the July 2006 proposed rule, which will be placed into Appendix Y of 10 CFR Part 430. 71 FR 42206. However, DOE recognizes that moving this material into the definitions section of the test procedure would clarify the test

procedure methodology stakeholders need to follow. Thus, in today's final rule, DOE is including the definitions from the ENERGY STAR test method referenced for "active-mode," "battery," "multi-port chargers" and "multi-voltage a la carte chargers." DOE will also clarify that the "standby mode" term defined in section 2(e) of proposed Appendix Y to Subpart B of Part 430 is also sometimes referred to as 'no-load mode'.

Wahl, Philips, and AHAM commented concerning definitions that DOE did not propose, but are part of the ENERGY STAR program. These stakeholders are seeking adoption of the ENERGY STAR definitions for cord/cordless products and nameplate nominal charging input power, with revisions. (Wahl, No. 67 at pp. 1–2; Philips, No. 68 at p. 1; AHAM No. 84 at p. 3) AHAM and Wahl commented that a cord/cordless product should be defined as a "product or appliance that is designed to operate on battery power, but also is designed such that the product or appliance can operate with a discharged battery when connected to charger or mains." *Id.* Stakeholders then request a revision to the definition of nominal power, such that companies making cord/cordless products focus on the energy consumed in battery maintenance mode rather than the wattage rating on the nameplate. (Philips, No. 68 at p. 1) AHAM and Wahl proposed language to be added to the definition of Nameplate Nominal Charging Input Power as follows: "or 3) for cord/cordless products where the nameplate power may reflect power consumed by the product in modes other than charging/maintaining batteries, the nominal charging input power shall be the highest measured power consumed during battery charging alone." (Wahl, No. 67 at p. 2; AHAM, No. 84 at p. 3)

DOE appreciates these comments, but recognizes that both are directed to whether products could be classified as battery chargers. DOE will take them into consideration in the determination analysis, in which DOE will establish the scope of applicability for the analysis, and will address and clarify issues pertaining to product classes and nameplate wattages.

4. *Test Method.* In the July 2006 proposed rule, DOE stated that some battery charger designs draw current in short pulses and, therefore, the instrumentation requirements for testing such designs should be capable of fully measuring the energy consumed by these pulses. 71 FR 42191. DOE proposed adding a requirement in section 3 of proposed Appendix Y to

Subpart B of Part 430 that addresses the capability of testing equipment to account for crest factor and frequency spectrum in the measurement. *Id.*

Finally, with respect to the test method, AHAM and PTI both provided comments that they agreed DOE should include provisions in the test procedure for evaluating pulsing and non-sinusoidal wave form battery chargers, as this will enhance the technical accuracy of the test procedure and will not cause any undue burden. (AHAM, No. 18.8 at p. 157 and No. 84 at p. 3; PTI, No. 73 at p. 3) Several stakeholders agreed with DOE that the testing need only be conducted at 115 volts at 60 hertz input power. (AHAM, No. 18.8 at p. 157 and No. 84 at p. 3; PSMA No. 72 at p. 2; PTI No. 73 at p. 3) DOE appreciates these comments, and has incorporated in today's test procedure final rule the requirements for evaluating pulsing and non-sinusoidal wave form battery chargers into Appendix Y to Subpart B of Part 430 as proposed in the July 2006 proposed rule. 71 FR 42206.

AHAM also commented that they supported DOE's proposal to use the 48-hour testing period for the test procedure. (AHAM, No. 18.8 at p. 158 and No. 84 at p. 3) PSMA recommended that DOE adopt an alternative (shorter) testing time period that takes only 7 hours to complete instead of 48 hours. (PSMA, No. 72 at p. 2) PSMA comments that this shorter time period would reduce testing time and cost. DOE recognizes that the ENERGY STAR test method allows manufacturers to choose either the 7-hour or the 48-hour approach when rating their products. However, DOE believes that allowing two different testing time periods for the same battery charger, in a test method that would be used to determine compliance with a mandatory standard, would pose a potential problem in that it would diminish the repeatability of the procedure. Furthermore, DOE believes the shorter testing time period (7-hour) does not allow ample time for the circuit to stabilize, which also diminishes the repeatability of the test procedure. In the July 2006 proposed rule, DOE proposed to adopt the longer (48-hour) testing time period, which is supported by AHAM. 71 FR 42190, 42206. DOE is not persuaded by PSMA's arguments to change the time period to 7 hours. Therefore, DOE is adopting this test procedure for battery chargers with the 48-hour testing time period.

#### O. External Power Supplies

In the July 2006 proposed rule, to address Subsection 325(u)(1)(A) of EPCA (42 U.S.C. 6295(u)(1)(A)), DOE

proposed to incorporate by reference certain sections of the EPA's ENERGY STAR "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies (August 11, 2004)" (the ENERGY STAR test method). 71 FR 42191. DOE received comments expressing concern over the scope of coverage and certain aspects of the proposed test method.

1. *Scope of Test Procedure.* DOE also proposed to adopt the EPACT 2005 definition of an external power supply without modification in the July 2006 proposed rule. 71 FR 42191, 42206. Additionally, DOE proposed to make the scope of applicability for the test method consistent with that of the ENERGY STAR program, which was designed to address external power supplies used with consumer electronics. DOE stated that it believes that the proposed scope of coverage for the external power supply test method did not deviate substantively from the statutory definition, since it was drafted to be applicable to these devices when powering consumer products. DOE requested comment on the proposed scope of applicability for the test procedure, which was proposed to be incorporated into section 1 of Appendix Z to Subpart B of CFR Part 430. 71 FR 42191.

On the issue of scope of coverage, some stakeholders were concerned about some of the limitations being imposed by DOE in the test procedure. (PG&E, No. 12 at p. 4, No. 18.8 at p.174 and No. 77 at p. 2; ACEEE, No. 59 at p. 3; CEC, No. 75, at p. 1; NRCAN, No. 86 at p. 1) ACEEE commented that at the test procedure stage, DOE should cover all products, and stated that it would be better for DOE to decide whether standards are appropriate for certain products in an energy conservation standards rulemaking. (ACEEE, No. 59 at p. 3) CEA commented that they supported DOE's proposal to make the scope of applicability for the external power supply test method consistent with that of the EPA's ENERGY STAR program. (CEA, No. 79 at p. 2) CEA stated that it is important for DOE to clearly define the scope of products subject to the test procedure for external power supplies and the scope of products subject to the test procedure for battery chargers. (CEA, No. 79 at p. 2)

The scope of coverage, contained in section 1 of proposed Appendix Z to Subpart B of Part 430, Uniform Test Method for Measuring the Energy Consumption of External Power Supplies attempted to refine the applicability of the test procedure to the

same subset of external power supplies covered under the ENERGY STAR program. 71 FR 42206. After careful consideration of stakeholder concerns and further review of the statute, DOE has decided to remove the scope of coverage from Appendix Z in today's final rule. DOE now recognizes that the test procedure itself can be applied to a broad range of external power supplies for consumer products, which may be more expansive than those included in the scope of the ENERGY STAR program. Thus, the test procedure will be applicable generally to external power supplies for consumer products (i.e., without limitation to specific wattage ranges or application types).

EPCA defines external power supply as "[a] circuit that is used to convert household electric current into DC current or lower-voltage AC current to operate a consumer product." (42 U.S.C. 6291(36)) DOE is adopting this definition verbatim in today's final rule into section 430.2 of 10 CFR Part 430, and is modifying the scope of the test procedure to apply simply to external power supplies, as just defined.

In parallel with this rulemaking, DOE is conducting a determination analysis to ascertain whether energy conservation standards are technologically feasible and economically justified, and would result in significant energy savings, for external power supplies (and battery chargers). In that proceeding, DOE will initially decide which products are within the EPCA definition of "external power supply," and will address all such products in conducting its analysis. To the extent DOE decides that products considered to be external power supplies are actually battery chargers and should be regulated as such, DOE will exclude such products from this analysis and consider them in the similar analysis it is conducting for battery chargers. If the determination as to external power supplies demonstrates compelling evidence that DOE should further investigate energy conservation standards for external power supplies, DOE will refine its scope of coverage as appropriate, through its public regulatory process, so that standards will cover only products for which they are warranted. DOE will also work to ensure that any resulting energy conservation standards would be appropriate for the various classes of external power supplies operating consumer products.

PG&E's and NRCAN's both submitted comments in which they appear to advocate that DOE adopt a single, inclusive test procedure that would apply to both external power supplies

and battery chargers. These commenters also urged DOE to make a determination about which products should be classified as an external power supply or a battery charger in a separate rulemaking. (PG&E, No. 12 at pp. 1-2 and No. 77 at p. 2; NRCAN, No. 86 at p. 1)

As indicated above for battery chargers, DOE disagrees with this approach. EPCA separately defines external power supplies and battery chargers. (42 U.S.C. 6291(32) and (36)) DOE is adopting in today's final rule one test procedure for external power supplies, and a different test procedure for battery chargers into Appendix Y and Appendix Z, respectively, of Subpart B to 10 CFR Part 430. 71 FR 42206.

The Power Sources Manufacturers Association (PSMA) requested that medical equipment be excluded from coverage under this rulemaking, which it stated would be consistent with California and New York regulations. (PSMA, No. 72 at p. 1) DOE notes that its mandate under this rulemaking is to develop test procedures for external power supplies for consumer products. As discussed in this section, DOE intends to develop an appropriate scope of coverage for this product in its determination analysis, and ultimately, if there is a positive determination, in the energy conservation standards rulemaking. DOE will consider whether, and to what extent, external power supplies for medical equipment are used "to operate a consumer product," 42 U.S.C. 6291(36), and if so, the extent to which standards are warranted for such external power supplies.

As discussed in the section on battery chargers, DOE recognizes that in certain instances, the distinction between a battery charger and an external power supply may not always be clear. For these devices, which could understandably be classified as either a battery charger or external power supply, DOE will work cooperatively with stakeholders to develop clear guidelines so there would not be any ambiguity as to which of the two test procedures adopted today would apply. DOE's initial understanding of the principal differentiating characteristic of an external power supply is that it is able to operate the consumer product independent of the battery, whereas a battery charger cannot. This initial understanding will be discussed in a separate proceeding (i.e., the "Scoping Workshop"). See section N for further detail.

2. *Power Factor.* In DOE's proposed rulemaking, stakeholders were invited to submit comments on power factor.

DOE understands that power factor, defined as the ratio of actual power drawn in watts to apparent power drawn in volt-amperes, affects the efficiency of electric utility distribution systems. Power factor correction processes are used to adjust this ratio (i.e., the power factor) towards a value of 1.0. DOE stated in the July 2006 notice it was concerned that, from a utility distribution system perspective, the aggregate effect of external power supplies with low-power factors would increase distribution system losses. 71 FR 42191. DOE received two comments in response to this request, both suggesting that DOE should include consideration of power factor in its test procedure. (PG&E, No. 77 at p. 2; NRCAN, No. 86 at p. 1)

In the July 2006 proposal, DOE expressed concern and solicited stakeholder input on power factor as it relates to external power supplies for consumer products. 71 FR 42191. Part of DOE's motivation behind the request for comments on power factor was the European directive which requires power factor correction on external power supplies with rated capacities greater than 75 watts input power ("Limits for Harmonic Current Emissions (Equipment Input Current Up To And Including 16 A Per Phase," EN61000-3-2). However, while preparing the July 2006 proposed rule, DOE's technical review indicated that power factor as it related to the typical wattages of external power supplies for consumer products was not a significant issue. Therefore, DOE requested comment from stakeholders, but did not propose any rule language in the test method for external power supplies to explicitly measure power factor. While two stakeholders did mention power factor, they did not provide any rationale or information to support its consideration in the test procedure. In addition, no other stakeholders commented that this should be taken into account. Thus, DOE is not persuaded that power factor should be an issue of concern in this test procedure rulemaking, and DOE is not including the measurement of power factor in today's final rule.

3. *Test Method.* Finally, DOE proposed to use only the U.S. voltage conditions in the test procedures specified in the July 2006 proposed rule. 71 FR 42191; 42207. CEA submitted a comment supporting DOE using only the U.S. voltage conditions in its test procedure. (CEA, No. 79 at p. 2) No other comments were received on this issue. Under the test procedure adopted today 115 volts at 60 hertz is the only input power for this test procedure as

specified in Appendix Z of Subpart B to 10 CFR Part 430. 71 FR 42206.

In addition, several stakeholders provided comment in support of the no-load energy consumption and the active mode efficiency loading percentages (i.e., 25%, 50%, 75% and 100% of rated nameplate output) proposed by DOE in the July 2006 notice. (PSMA, No. 72 at p. 2; PG&E, No. 77 at p. 2; CEA No. 79 at p. 2; NRCAN No. 86 at p. 1) DOE is adopting the no-load energy consumption measurement and the active mode efficiency loading percentages as proposed in the July 2006 proposed rule. 71 FR 42191.

#### *P. General Comments and Final Rule*

In the July 2006 proposed rule, DOE proposed to add a definition for energy conservation standard as it relates to commercial equipment in § 431.2 of 10 CFR Part 431. 71 FR 42207. DOE initially proposed this definition because it thought it would add clarity for stakeholders when referencing the test procedures covered by the statute. However, DOE is not adopting this definition in today's final rule because DOE feels it is unnecessary and confusing to have two separate definitions for the term "energy conservation standard" in its regulations. In addition, DOE believes the EPCA definition of energy conservation standard is sufficient.

#### **IV. Corrections to the Recent Technical Amendment to DOE's Energy Conservation Standards**

In the July 2006 proposed rule, DOE announced it intended to incorporate minor revisions to the October 18, 2005, final rule in which it adopted a technical amendment to its energy conservation standards for certain consumer products and commercial and industrial equipment. 70 FR 60407. These revisions consist of editorial corrections, corrections to errors in fact, and clarifying language. Each of the revisions discussed in the July 2006 proposed rule is added to the appropriate section of the CFR by today's final rule. The corrections and clarifications to the October 2005 final rule are as follows:

1. In section 430.2, in the definition of "Dehumidifier," DOE changed "and mechanically encased assembly" to "and mechanically refrigerated encased assembly."

2. In § 430.32(u), DOE made the following changes in the table on standards for medium base CFLs:

a. In the "Requirements" column and opposite "Lamp Power (Watts) & Configuration," change "Minimum

Efficiency: lumen/watt" to "Minimum Efficacy: lumens/watt."

b. In the "Factor" column, change "Base Lamp" to "Bare Lamp."

c. In the "Factor" column, delete the reference to "Covered Lamp (with reflector)," "Lamp Power <20," and "Lamp Power >20" because these products are not covered under EPCACT 2005. Correspondingly, delete "33.0" and "40.0" from the "Requirements" column.

d. In the "Requirements" column, opposite "Average Rated Lamp Life," delete "and qualification form." The clause reads, "as declared by the manufacturer on packaging."

e. In footnote 1, changed "in the base up an/or" to "in the base up and/or."

3. In § 431.97(b), DOE made the following changes:

a. In the text preceding Table 1 in paragraph (a), DOE added the words "in the case of air-cooled equipment with a capacity greater than 65,000 Btu per hour," after the date "January 1, 2010."

b. In the text preceding the table, DOE added the term "Air-cooled" at the beginning, and inserted the words "with cooling capacities equal to or greater than 65,000 Btu/h and less than 760,000 Btu/h" after the date "January 1, 2010."

c. In the table, DOE changed "Very large commercial package air-conditioning (air-cooled)" to "Very large commercial package air-conditioning and heating equipment (air-cooled)."

4. In § 431.226(a) for traffic signal modules and pedestrian modules, DOE changed the requirements from "a nominal wattage no greater than" to "a nominal wattage and maximum wattage no greater than."

#### **V. Procedural Requirements**

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

The Office of Information and Regulatory Affairs (OIRA) of the Office of Management Budget (OMB) has determined that today's regulatory action is not a "significant regulatory action" under section 3(f)(1) of Executive Order 12866, "Regulatory Planning and Review." 58 FR 51735 (October 4, 1993). Accordingly, today's action was not subject to review by OIRA in OMB.

##### *B. Review Under the Regulatory Flexibility Act*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis for any rule that by law must be 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. A regulatory flexibility analysis examines the impact of the rule on small entities and considers alternative ways of reducing negative impacts. Also, 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, to ensure that the potential impacts of its rules on small entities are properly considered during the rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of General Counsel's Web site: <http://www.gc.doe.gov>.

EPACT 2005 amended EPCA to incorporate into DOE's energy conservation program certain consumer products and commercial and industrial equipment, including the products for which DOE is proposing test procedures in this notice. On October 18, 2005, DOE published in the **Federal Register** a technical amendment to place in the CFR the energy conservation standards, and related definitions, that Congress prescribed in EPACT 2005. 70 FR 60407. Today, DOE is publishing further technical amendments to certain energy conservation standards for consumer products and commercial and industrial equipment published in the **Federal Register** on October 18, 2005. DOE is revising the CFR to incorporate, essentially without substantive change, the energy conservation test procedures that Congress prescribed or otherwise identified in EPACT 2005 for certain consumer products and commercial and industrial equipment. DOE is also adopting test procedures for consumer products and commercial and industrial equipment for which EPACT did not identify specific test procedures.

DOE reviewed today's final rule under the provisions of the Regulatory Flexibility Act and the policies and procedures published on February 19, 2003. DOE conducted its examination for the products and equipment covered under EPACT 2005 in several groups: equipment for which EPACT 2005 amended EPCA to direct DOE to adopt test procedures the statute identifies; products or equipment for which the EPACT 2005 amendments to EPCA do not specifically identify any test procedure; and products or equipment for which the EPACT 2005 amendments mandate that DOE base its test procedures on test procedures the statute identifies.

EPACT 2005 establishes specific test procedures for automatic commercial ice makers; for commercial refrigerators, freezers, and refrigerator-freezers for

which the statute prescribes standards; and for very large commercial package air-conditioning and heating equipment (240,000 Btu/h through 760,000 Btu/h). Since EPCA now mandates the test procedures, they are incorporated into today's proposed rule. Any costs of complying with them are imposed by EPCA and not the rule. For this equipment, DOE is merely incorporating by reference into 10 CFR Part 431 the required test procedures as the statute directs. Therefore, DOE concludes that this rule would not impose a significant impact on a substantial number of small businesses producing automatic commercial ice makers; commercial refrigerators, freezers, and refrigerator-freezers for which the statute prescribes standards; or very large commercial package air-conditioning and heating equipment (240,000 Btu/h through 760,000 Btu/h).

EPACT 2005 does not prescribe test procedures for all products and equipment it addresses. For example, EPACT 2005 establishes energy conservation design requirements for commercial unit heaters, torchieres, ceiling fan light kits with sockets other than medium screw base and pin-based, and ceiling fans.

For the remaining products and equipment that EPACT 2005 covers and today's final rule addresses, the test procedures are based on test procedures developed and already in general use by industry. Many manufacturers have been redesigning the products and equipment covered under today's final rule, and testing them for compliance with existing voluntary performance standards such as the ENERGY STAR program requirements, using industry-developed test procedures that are the basis for the test procedures in EPACT 2005. These products and equipment include dehumidifiers, commercial peririnse spray valves, illuminated exit signs, ceiling fan light kits with medium screw base and pin-based sockets, medium-base CFLs, traffic signal modules, and pedestrian modules. To the extent manufacturers already test their products for efficiency using the test procedures identified in EPACT 2005, and incorporated into today's final rule, to assure that the products meet existing energy conservation requirements, manufacturers would experience no additional burdens if DOE adopts these test procedures and requires manufacturers to use them. Furthermore, as to the test procedures adopted today that EPACT 2005 directs DOE to adopt, and arguably for the proposed test procedures that EPACT 2005 specifically identifies and states shall be the basis for the DOE test

procedure, any cost of complying with the proposed rule arises from the underlying statutory requirement and not the rule itself. Moreover, for the products and equipment for which EPACT 2005 prescribes energy efficiency standards, implicit in such requirements is that manufacturers must test their products to assure compliance with the standards. For all of these reasons, DOE believes today's final rule would not impose significant economic costs on manufacturers, including small manufacturers, of these products.

Certain products and equipment—ceiling fans, battery chargers, external power supplies, and refrigerated bottled and canned beverage vending machines—are the subject of voluntary standards and/or test procedures but are not yet covered by DOE energy conservation standards. DOE's adoption of test procedures for these products would entail even less burden for their manufacturers than described in the previous paragraph, because these manufacturers would not be required to perform testing to establish compliance with standards. Thus, DOE believes today's final rule clearly would not impose significant economic costs on small manufacturers of these products.

For all of these reasons, DOE certifies that today's final rule would not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE will transmit this certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the Small Business Administration for review pursuant to 5 U.S.C. 605(b).

### *C. Review Under the Paperwork Reduction Act of 1995*

This final rule will impose no new information or recordkeeping requirements since it does not include the manufacturer certification and reporting requirements included in the July 2006 proposed rule. As indicated in the July 2006 proposed rule, the manufacturer certification and reporting requirements contain certain recordkeeping requirements. However, those recordkeeping requirements and associated burdens from manufacturer certification and reporting are being considered in a separate rulemaking.

Under the Paperwork Reduction Act, an agency may not conduct or sponsor a collection of information unless the collection displays a currently valid OMB control number. (44 U.S.C. 3506(c)(1)(B)(iii)(V)) The certification and record keeping requirements for consumer products in 10 CFR Part 430

have previously been assigned OMB control number 1910-1400. The certification and record keeping requirements for commercial and industrial equipment in 10 CFR Part 431 must be approved and assigned a control number by OMB. DOE has submitted those proposed certification and recordkeeping requirements to OMB for review and approval under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*

In the July 2006 proposed rule, DOE provided burden estimates for each of the products covered by the proposed rule and invited interested parties to submit comments concerning the estimated paperwork reporting burden to DOE and to the Office of Information and Regulatory Affairs, Office of Management and Budget. DOE will address all of the comments in the final rule adopting manufacturer certification and reporting requirements.

#### *D. Review Under the National Environmental Policy Act of 1969*

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 (42 U.S.C. 4321 *et seq.*) and DOE's implementation of these regulations at 10 CFR part 1021. Specifically, this rule is establishing test procedures that will not affect the quality or distribution of energy and that will not result in any environmental impacts and, therefore, is covered by the Categorical Exclusion in paragraph A6 to subpart D, 10 CFR part 1021. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

#### *E. Review Under Executive Order 13132*

Executive Order 13132, "Federalism," 64 FR 43255 (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 developing 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 developing such regulations. 65 FR

13735. DOE examined this final rule and determined that it 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. Executive Order 13132 requires no further action.

#### *F. Review Under Executive Order 12988*

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (February 7, 1996), imposes on Federal agencies the 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 to ensure 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, this rule meets the relevant standards of Executive Order 12988.

#### *G. Review Under the Unfunded Mandates Reform Act of 1995*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104-4) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. For 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 a written statement that estimates the resulting costs, benefits,

and other effects on the national economy. 2 U.S.C. 1532(a) and (b). The UMRA 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." The UMRA also requires an agency plan for giving notice and opportunity for timely input to small governments that may be affected before establishing a requirement that might significantly or uniquely affect them. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA (62 FR 12820) (also available at <http://www.gc.doe.gov>). Today's 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 under the UMRA do not apply.

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

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

#### *I. Review Under Executive Order 12630*

DOE has determined, under Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights," 53 FR 8859 (March 18, 1988), that this rule would not result in any takings that might require compensation under the Fifth Amendment to the United States Constitution.

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

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. The OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's final rule under the OMB and DOE guidelines and has

concluded that it is consistent with applicable policies in those guidelines.

#### K. Review Under Executive Order 13211

Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to the OIRA of OMB a Statement of Energy Effects for any proposed significant energy action. A "significant energy action" is defined as any action by an agency that promulgated a final rule 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 reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Because this final rule would not have a significant adverse effect on the supply, distribution, or use of energy, the rule is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

#### L. Review Under Section 32 of the Federal Energy Administration (FEA) 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, as amended by the Federal Energy Administration Authorization Act of 1977. 15 U.S.C. 788. DOE indicated in the July 2006 proposed rule that Section 32 applies to the portion of the proposed rule that incorporates testing methods in six commercial standards not specifically specified in EFACT 2005, requiring consultation with the Attorney General and the Chairman of the Federal Trade Commission (FTC) concerning the impact of the commercial or industry standards on competition. 71 FR 42178, 42200 (July 25, 2006). Based on the comments, DOE is no longer incorporating by reference two of the six commercial standards, IEEE Standard 1515-2000, "IEEE Recommended Practice for Electronic Power Subsystems; Parameter Definitions, Test Conditions, and Test Methods," for battery chargers and external power supplies and IESNA Standard LM 45-

2000, "Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps," in the final rule. In addition, DOE has determined that the two ENERGY STAR test methods identified in the July 2006, proposed rule, "ENERGY STAR Test Methodology for Determining the Performance Characteristics of Battery Charging Systems," December 2005, and "ENERGY STAR Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies," August 11, 2004, are not commercial standards subject to the section 32 review.

Since publication of the July 2006 proposed rule, DOE submitted two commercial standards, ARI Standard 1200-2006, "Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets;" and ARI Standard 340/360-2004, "Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment," to the Attorney General and the Chairman of the Federal Trade Commission for such review. Neither the Attorney General nor the Chairman of the Federal Trade Commission has recommended against incorporation of these standards.

#### M. Congressional Notification

As required by 5 U.S.C. 801, DOE will report to Congress on the promulgation of this rule prior to its effective date. The report will state that it has been determined that the rule is not a "major rule" as defined by 5 U.S.C. 804(2).

#### VI. Approval of the Office of the Secretary

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

#### List of Subjects

##### 10 CFR Part 430

Administrative practice and procedure, Energy conservation test procedures, Household appliances, Incorporation by reference.

##### 10 CFR Part 431

Administrative practice and procedure, Commercial products, Energy conservation test procedures, Incorporation by reference.

Issued in Washington, DC, on November 28, 2006.

**Alexander A. Karsner,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

■ For the reasons stated in the preamble, DOE amends Chapter II, Subchapter D, of Title 10 of the Code of Federal Regulations as set forth below:

#### PART 430—ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS

■ 1. The authority citation for part 430 continues to read as follows:

**Authority:** 42 U.S.C. 6291-6309; 28 U.S.C. 2461 note.

■ 2. Section 430.2 is amended by:

- a. Adding to the definition of "basic model" paragraphs (21) through (26).
- b. Revising the definition of "covered product" and "dehumidifier."
- c. Adding in alphabetical order the definition of "Battery charger," "External power supply," and "Pin-based."

The revisions and additions read as follows:

#### § 430.2 Definitions.

\* \* \* \* \*

*Basic model* \* \* \*

(21) With respect to ceiling fans, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(22) With respect to ceiling fan light kits, which have electrical characteristics that are essentially identical, and which do not have differing physical or functional characteristics that affect energy consumption.

(23) With respect to medium base compact fluorescent lamps, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(24) With respect to dehumidifiers, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(25) With respect to battery chargers, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(26) With respect to external power supplies, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

\* \* \* \* \*

*Battery charger* means a device that charges batteries for consumer products, including battery chargers embedded in other consumer products.

\* \* \* \* \*

*Covered product* means a consumer product:

(1) Of a type specified in section 322 of the Act, or

(2) That is a ceiling fan, ceiling fan light kit, medium base compact fluorescent lamp, dehumidifier, battery charger, external power supply, or torchiere.

*Dehumidifier* means a self-contained, electrically operated, and mechanically refrigerated encased assembly consisting of—

(1) A refrigerated surface (evaporator) that condenses moisture from the atmosphere;

(2) A refrigerating system, including an electric motor;

(3) An air-circulating fan; and

(4) Means for collecting or disposing of the condensate.

\* \* \* \* \*

*External power supply* means an external power supply circuit that is used to convert household electric current into DC current or lower-voltage AC current to operate a consumer product.

\* \* \* \* \*

*Pin-based* means (1) the base of a fluorescent lamp, that is not integrally ballasted and that has a plug-in lamp base, including multi-tube, multibend, spiral, and circline types, or (2) a socket that holds such a lamp.

\* \* \* \* \*

■ 3. Section 430.22 is amended by adding new paragraphs (b)(9), (b)(10), and (b)(11) to read as follows:

**§ 430.22 Reference Sources.**

\* \* \* \* \*

(b) \* \* \*

(9) Environmental Protection Agency (EPA), Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272-0167.

1. "ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans," Version 1.1, December 9, 2002.

2. "ENERGY STAR Program Requirements for Residential Light Fixtures," Version 4.0, issued January 10, 2005.

3. "ENERGY STAR Program Requirements for Dehumidifiers," effective January 1, 2001.

4. "Test Methodology for Determining the Energy Performance of Battery Charging Systems," December 2005.

(10) U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127.

1. "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," Version 3.0, issued October 30, 2003.

2. "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," Version August 9, 2001.

(11) California Energy Commission, 1516 Ninth Street, MS-25, Sacramento, CA 95814, (916) 654-4091.

1. "Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies," August 11, 2004.

\* \* \* \* \*

■ 4. Section 430.23 is amended by revising the section heading, adding new paragraphs (w), (x), (y), (z), (aa), and (bb) to read as follows:

**§ 430.23 Test procedures for the measurement of energy and water consumption.**

\* \* \* \* \*

(w) *Ceiling fans*. The airflow and airflow efficiency for ceiling fans, expressed in cubic feet per minute (CFM) and CFM per watt (CFM/watt), respectively, shall be measured in accordance with section 4 of appendix U of this subpart.

(x) *Ceiling fan light kits*. The efficacy, expressed in lumens per watt (lumens/watt), for ceiling fan light kits with sockets for medium screw base lamps or pin-based fluorescent lamps shall be measured in accordance with section 4 of appendix V of this subpart.

(y) *Medium Base Compact Fluorescent Lamps*. The initial efficacy, lumen maintenance at 1,000 hours, lumen maintenance at 40-percent of rated life, rapid cycle stress test, and lamp life shall be measured in accordance with section 4 of appendix W of this subpart.

(z) *Dehumidifiers*. The energy factor for dehumidifiers, expressed in liters per kilowatt hour (L/kWh), shall be measured in accordance with section 4 of appendix X of this subpart.

(aa) *Battery Chargers*. The energy consumption of a battery charger, expressed as the nonactive energy ratio, shall be measured in accordance with section 4 of appendix Y of this subpart.

(bb) *External Power Supplies*. The energy consumption of an external power supply, including active mode efficiency in a percentage and the no-load energy consumption in watts, shall be measured in accordance with section 4 of appendix Z of this subpart.

■ 5. Subpart B of part 430 is amended by adding new appendices U, V, W, X, Y, and Z, to read as follows:

**Appendix U to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Ceiling Fans**

1. *Scope*. This appendix covers the test requirements used to measure the energy performance of ceiling fans.

2. *Definitions*:

a. *Airflow* means the rate of air movement at a specific fan-speed setting expressed in cubic feet per minute (CFM).

b. *Airflow efficiency* means the ratio of airflow divided by power at a specific ceiling fan-speed setting expressed in CFM per watt (CFM/watt).

3. *Test Apparatus and General*

*Instructions*: The test apparatus and instructions for testing ceiling fans shall conform to the requirements specified in Chapter 3, "Air-Delivery Room Construction and Preparation," Chapter 4, "Equipment Set-up and Test Procedure," and Chapter 6, "Definitions and Acronyms," of the EPA's "ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans," Version 1.1, December 9, 2002 (Incorporated by reference, see § 430.22). Record measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. Round the final energy consumption value to the nearest whole number as follows:

(i) A fractional number at or above the midpoint between the two consecutive whole numbers shall be rounded up to the higher of the two whole numbers; or

(ii) A fractional number below the midpoint between the two consecutive whole numbers shall be rounded down to the lower of the two whole numbers.

4. *Test Measurement*: Measure the airflow and airflow efficiency for ceiling fans, expressed in cubic feet per minute (CFM) and CFM per watt (CFM/watt), in accordance with the test requirements specified in Chapter 4, "Equipment Setup and Test Procedure," of the EPA's "ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans," Version 1.1, December 9, 2002 (Incorporated by reference, see § 430.22). In performing the airflow test, measure ceiling fan power using a RMS sensor capable of measuring power with an accuracy of  $\pm 1\%$ . Prior to using the sensor and sensor software it has selected, the test laboratory shall verify performance of the sensor and sensor software. Measure power input at a point that includes all power consuming components of the ceiling fan (but without any attached light kit energized). Measure power at the rated voltage that represents normal operation continuously over the time period for which the airflow test is conducted, and report the average value of the power measurement in watts (W). Use the average value of power input to calculate the airflow efficiency in CFM/W.

**Appendix V to Subpart B of Part 430—  
Uniform Test Method for Measuring the  
Energy Consumption of Ceiling Fan Light  
Kits**

1. *Scope:* This appendix covers the test requirements used to measure the energy performance of ceiling fan light kits.

2. *Definitions:*

a. *Input power* means the actual total power used by all lamp(s) and ballast(s) of the light kit during operation, expressed in watts (W) and measured using the lamp and ballast packaged with the kit.

b. *Lamp ballast platform* means a pairing of one ballast with one or more lamps that can operate simultaneously on that ballast. A unique platform is defined by the manufacturer and model number of the ballast and lamp(s) and the quantity of lamps that operate on the ballast.

c. *Lamp lumens* means a measurement of luminous flux expressed in lumens and measured using the lamp and ballast shipped with the fixture.

d. *System efficacy per lamp ballast platform* means the ratio of measured lamp lumens expressed in lumens and measured input power expressed in watts (W).

3. *Test Apparatus and General Instructions:*

(a) The test apparatus and instruction for testing screw base lamps packaged with ceiling fan light kits that have medium screw base sockets shall conform to the requirements specified in section 2, "Definitions," section 3, "Referenced Standards," and section 4, "CFL Requirements for Testing" of DOE's "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," Version 3.0, (Incorporated by reference, see § 430.22). Record measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. Round off the final energy consumption value to a whole number as follows:

(i) A fractional number at or above the midpoint between the two consecutive whole numbers shall be rounded up to the higher of the two whole numbers; or

(ii) A fractional number below the midpoint between the two consecutive whole numbers shall be rounded down to the lower of the two whole numbers.

(b) The test apparatus and instruction for testing pin-based fluorescent lamps packaged with ceiling fan light kits that have pin-based sockets shall conform to the requirements specified in section 1, "Definitions," and section 3, "Energy Efficiency Specifications for Qualifying Products" of the EPA's "ENERGY STAR Program Requirements for Residential Light Fixtures," Version 4.0, (Incorporated by reference, see § 430.22). Record measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. The final energy consumption value shall be rounded to a whole number as follows:

(i) A fractional number at or above the midpoint between the two consecutive whole numbers shall be rounded up to the higher of the two whole numbers; or

(ii) A fractional number below the midpoint between the two consecutive whole

numbers shall be rounded down to the lower of the two whole numbers.

4. *Test Measurement:*

(a) For screw base compact fluorescent lamps packaged with ceiling fan light kits that have medium screw base sockets, measure the efficacy, expressed in lumens per watt, in accordance with the test requirements specified in section 4, "CFL Requirements for Testing," of the "ENERGY STAR Program Requirements for Compact Fluorescent Lamps," Version 3.0 (Incorporated by reference, see § 430.22).

(b) For pin-based compact fluorescent lamps packaged with ceiling fan light kits that have pin-based sockets, measure the efficacy, expressed in lumens per watt, in accordance with the test requirements specified in section 3, "Energy-Efficiency Specifications for Qualifying Products" and Table 3 in section 4, "Qualification Process, Testing Facilities, Standards, and Documentation," of the "ENERGY STAR Program Requirements for Residential Light Fixtures," Version 4.0 (Incorporated by reference, see § 430.22).

**Appendix W to Subpart B of Part 430—  
Uniform Test Method for Measuring the  
Energy Consumption of Medium Base  
Compact Fluorescent Lamps**

1. *Scope:* This appendix covers the test requirements used to measure the initial efficacy, lumen maintenance at 1,000 hours, lumen maintenance at 40 percent of rated life, rapid cycle stress, and lamp life of medium base compact fluorescent lamps.

2. *Definitions:*

a. *Average rated life* means the length of time declared by the manufacturer at which 50 percent of any large number of units of a lamp reaches the end of their individual lives.

b. *Initial performance values* means the photometric and electrical characteristics of the lamp at the end of 100 hours of operation. Such values include the initial efficacy, the rated luminous flux and the rated lumen output.

c. *Lumen maintenance* means the luminous flux or lumen output at a given time in the life of the lamp and expressed as a percentage of the rated luminous flux or rated lumen output, respectively.

d. *Rated luminous flux or rated lumen output* means the initial lumen rating (100 hour) declared by the manufacturer, which consists of the lumen rating of a lamp at the end of 100 hours of operation.

e. *Rated supply frequency* means the frequency marked on the lamp.

f. *Rated voltage* means the voltage marked on the lamp.

g. *Rated wattage* means the wattage marked on the lamp.

h. *Self-ballasted compact fluorescent lamp* means a compact fluorescent lamp unit that incorporates, permanently enclosed, all elements that are necessary for the starting and stable operation of the lamp, and does not include any replaceable or interchangeable parts.

3. *Test Apparatus and General Instructions:* The test apparatus and instructions for testing medium base compact fluorescent lamps shall conform to the

requirements specified in section 2, "Definitions," section 3, "Referenced Standards," and section 4, "CFL Requirements for Testing," of DOE's "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," Version dated August 9, 2001, (commonly referred to as Version 2.0), (Incorporated by reference, see § 430.22). Record measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. Round the final energy consumption value, as applicable, to the nearest decimal place or whole number as follows:

(i) A fractional number at or above the midpoint between two consecutive decimal places or whole numbers shall be rounded up to the higher of the two decimal places or whole numbers; or

(ii) A fractional number below the midpoint between two consecutive decimal places or whole numbers shall be rounded down to the lower of the two decimal places or whole numbers. Round the final initial efficacy to one decimal place. Round the final lumen maintenance at 1,000 hours to a whole number. Round the final lumen maintenance at 40 percent of rated life, the final rapid cycle stress, and the final lamp life for medium base compact fluorescent lamps to whole numbers.

4. *Test Measurement:* Measure the initial efficacy expressed in lumens per watt; lumen maintenance at 1,000 hours expressed in lumens; lumen maintenance at 40 percent of rated life expressed in lumens; rapid cycle stress expressed in the number of lamps that meet or exceed the minimum number of cycles; and lamp life expressed in hours in accordance with the test requirements specified in section 4, "CFL Requirements for Testing" of DOE's "ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs," Version dated August 9, 2001 (Incorporated by reference, see § 430.22).

**Appendix X to Subpart B of Part 430—  
Uniform Test Method for Measuring the  
Energy Consumption of Dehumidifiers**

1. *Scope:* This appendix covers the test requirements used to measure the energy performance of dehumidifiers.

2. *Definitions:*

a. *Product capacity for dehumidifiers* means a measure of the ability of a dehumidifier to remove moisture from its surrounding atmosphere, measured in pints collected per 24 hours of continuous operation.

b. *Energy factor for dehumidifiers* means a measure of energy efficiency of a dehumidifier calculated by dividing the water removed from the air by the energy consumed, measured in liters per kilowatt hour (L/kWh).

3. *Test Apparatus and General Instructions:* The test apparatus and instructions for testing dehumidifiers shall conform to the requirements specified in section 1, "Definitions," section 2, "Qualifying Products," and section 4, "Test Criteria," of the EPA's "ENERGY STAR Program Requirements for Dehumidifiers," effective January 1, 2001 (Incorporated by reference, see § 430.22). Record

measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. Round the final minimum energy factor value to two decimal places as follows:

(i) A fractional number at or above the midpoint between two consecutive decimal places shall be rounded up to the higher of the two decimal places; or

(ii) A fractional number below the midpoint between two consecutive decimal places shall be rounded down to the lower of the two decimal places.

4. *Test Measurement*: Measure the energy factor for dehumidifiers, expressed in liters per kilowatt hour (L/kWh) and product capacity in pints per day (pints/day), in accordance with the test requirements specified in section 4, "Test Criteria," of EPA's "ENERGY STAR Program Requirements for Dehumidifiers," effective January 1, 2001 (Incorporated by reference, see § 430.22).

#### Appendix Y to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of Battery Chargers

1. *Scope*: This appendix covers the test requirements used to measure battery charger energy consumption.

2. *Definitions*: The following definitions are for the purposes of understanding terminology associated with the test method for measuring battery charger energy consumption.<sup>1</sup>

a. *Accumulated nonactive energy* is the sum of the energy, in watt-hours, consumed by the battery charger in battery-maintenance mode and standby mode over time periods defined in the test procedure.

b. *Active mode* is the condition in which the battery is receiving the main charge, equalizing cells, and performing other one-time or limited-time functions necessary for bringing the battery to the fully charged state.

c. *Battery* or *battery pack* is an assembly of one or more rechargeable cells intended to provide electrical energy to a consumer product, and may be in one of the following forms: (a) detachable battery: a battery that is contained in a separate enclosure from the consumer product and is intended to be removed or disconnected from the consumer product for recharging; or (b) integral battery: a battery that is contained within the consumer product and is not removed from the consumer product for charging purposes.

d. *Battery energy* is the energy, in watt-hours, delivered by the battery under the specified discharge conditions in the test procedure.

e. *Battery maintenance mode* or *maintenance mode* is the mode of operation

when the battery charger is connected to the main electricity supply and the battery is fully charged, but is still connected to the charger.

f. *Energy ratio* or *nonactive energy ratio* means the ratio of the accumulated nonactive energy divided by the battery energy.

g. *Multi-port charger* means a battery charger that is capable of simultaneously charging two or more batteries. These chargers also may have multi-voltage capability, allowing two or more batteries of different voltages to charge simultaneously.

h. *Multi-voltage a la carte charger* means a separate battery charger that is individually packaged without batteries, and is able to charge a variety of batteries of different nominal voltages.

i. *Standby mode* or *no-load mode* means the mode of operation when the battery charger is connected to the main electricity supply and the battery is not connected to the charger.

3. *Test Apparatus and General Instructions*: The test apparatus, standard testing conditions, and instructions for testing battery chargers shall conform to the requirements specified in section 4, "Standard Testing Conditions," of the EPA's "Test Methodology for Determining the Energy Performance of Battery Charging Systems," December 2005 (Incorporated by reference, see § 430.22). The test voltage specified in section 4.1.1, "Voltage," shall be 115 volts, 60 Hz. The battery charger should be tested using the full test methodology, which has a test duration of 48 hours. In section 4.3.1, "Precision Requirements," append this sentence to the end: "The test equipment must be capable of accounting for crest factor and frequency spectrum in its measurement of the UUT input current."

4. *Test Measurement*:

(a) *Inactive Mode Energy Consumption Measurement*. The measurement of the battery charger energy ratio shall conform to the requirements specified in section 5, "Determining BCS Energy Ratio," of the EPA's "Test Methodology for Determining the Energy Performance of Battery Charging Systems, December 2005" (Incorporated by reference, see § 430.22).

(b) *Active Mode Energy Consumption Measurement*. [RESERVED]

#### Appendix Z to Subpart B of Part 430—Uniform Test Method for Measuring the Energy Consumption of External Power Supplies

1. *Scope*: This appendix covers the test requirements used to measure the active mode efficiency and the no-load energy consumption of external power supplies.

2. *Definitions*: The following definitions are for the purposes of understanding terminology associated with the test method for measuring external power supply energy consumption.<sup>1</sup>

a. *Active mode* is the mode of operation when the external power supply is connected to the main electricity supply and the output is connected to a load.

b. *Active mode efficiency* is the ratio, expressed as a percentage, of the total real output power produced by a power supply to the real input power required to produce it.

c. *No load mode* means the mode of operation when the external power supply is connected to the main electricity supply and the output is not connected to a load.

d. *Single voltage external AC-AC power supply* means an external power supply that is designed to convert line voltage AC input into lower voltage AC output and is able to convert to only one AC output voltage at a time.

e. *Single voltage external AC-DC power supply* means an external power supply that is designed to convert line voltage AC input into lower voltage DC output and is able to convert to only one DC output voltage at a time.

f. *Total harmonic distortion*, expressed as a percent, is the RMS value of an AC signal after the fundamental component is removed and interharmonic components are ignored, divided by the RMS value of the fundamental component.

g. *True power factor* is the ratio of the active (also referred to as real) power consumed in watts to the apparent power, drawn in volt-amperes.

3. *Test Apparatus and General Instructions*: The test apparatus, standard testing conditions, and instructions for testing external power supplies shall conform to the requirements specified in section 4, "General Conditions for Measurement," of the CEC's "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies," August 11, 2004. The test voltage specified in section 4.d, "Test Voltage," shall only be 115 volts, 60 Hz.

4. *Test Measurement*: The measurement of the external power supply active mode efficiency and no-load energy consumption shall conform to the requirements specified in section 5, "Measurement Approach," of the CEC's "Test Method for Calculating the Energy Efficiency of Single-Voltage External AD-DC and AC-AC Power Supplies," August 11, 2004 (Incorporated by reference, see § 430.22).

■ 6. Section 430.32 is amended by revising the table in paragraph (u) to read as follows:

#### § 430.32 Energy and water conservation standards and effective dates.

\* \* \* \* \*

(u) \* \* \*

<sup>1</sup> For clarity on any other terminology used in the test method, please refer to IEEE Standard 1515-2000.

Factor	Requirements
Lamp Power (Watts) & Configuration <sup>1</sup> .....	Minimum Efficacy: lumens/watt(Based upon initial lumen data). <sup>2</sup>
<i>Bare Lamp:</i> Lamp Power <15 .....	45.0.
Lamp Power ≥15 .....	60.0.
<i>Covered Lamp (no reflector):</i> Lamp Power <15 .....	40.0.
15≥ Lamp Power <19 .....	48.0.
19≥ Lamp Power <25 .....	50.0.
Lamp Power ≥25 .....	55.0.
1,000-hour Lumen Maintenance .....	The average of at least 5 lamps must be a minimum 90.0% of initial (100-hour) lumen output @ 1,000 hours of rated life.
Lumen Maintenance .....	80.0% of initial (100-hour) rating at 40 percent of rated life (per ANSI C78.5 Clause 4.10).
Rapid Cycle Stress Test .....	Per ANSI C78.5 and IESNA LM-65 (clauses 2,3,5, and 6). <i>Exception:</i> Cycle times must be 5 minutes on, 5 minutes off. Lamp will be cycled once for every two hours of rated life. At least 5 lamps <i>must meet or exceed</i> the minimum number of cycles.
Average Rated Lamp Life .....	≥6,000 hours as declared by the manufacturer on packaging. At 80% of rated life, statistical methods may be used to confirm lifetime claims based on sampling performance.

<sup>1</sup> Take performance and electrical requirements at the end of the 100-hour aging period according to ANSI Standard C78.5. The lamp efficacy shall be the average of the lesser of the lumens per watt measured in the base up and/or other specified positions. Use wattages place on packaging to select proper specification efficacy in this table, not measured wattage. Labeled wattages are for reference only.  
<sup>2</sup> Efficacies are based on measured values for lumens and wattages from pertinent test data. Wattages and lumens placed on packages may not be used in calculation and are not governed by this specification. For multi-level or dimmable systems, measurements shall be at the highest setting. Acceptable measurement error is ±3%.

\* \* \* \* \*

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

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

Authority: 42 U.S.C. 6291–6317.

■ 8. Section 431.2 is amended by revising the definition of “Covered equipment,” to read as follows:

**§ 431.2 Definitions.**

\* \* \* \* \*

*Covered equipment* means any electric motor, as defined in § 431.12; commercial heating, ventilating, and air conditioning, and water heating product (HVAC & WH product), as defined in § 431.172; commercial refrigerator, freezer, or refrigerator-freezer, as defined in § 431.62; automatic commercial ice maker, as defined in § 431.132; commercial clothes washer, as defined in § 431.152; distribution transformer, as defined in § 431.192; illuminated exit sign, as defined in § 431.202; traffic signal module or pedestrian module, as defined in § 431.222; unit heater, as defined in § 431.242; commercial prerinse spray valve, as defined in § 431.262; mercury vapor lamp ballast, as defined in § 431.282; or refrigerated bottled or

canned beverage vending machine, as defined in § 431.292.

\* \* \* \* \*

■ 9. Section 431.62 is amended by adding, in alphabetical order, new definitions for “Basic model,” “Ice-cream freezer,” and “Test package,” to read as follows:

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

*Basic model* means, with respect to commercial refrigerators, freezers, and refrigerator-freezers, all units of a given type of commercial refrigerator, freezer, or refrigerator-freezer (or class thereof) manufactured by one manufacturer that have the same primary energy source, which have electrical characteristics that are essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

\* \* \* \* \*

*Ice-cream freezer* means a commercial freezer that is designed to operate at or below –5 °F (–21 °C) and that the manufacturer designs, markets, or intends for the storing, displaying, or dispensing of ice cream.

\* \* \* \* \*

*Test package* means a packaged material that is used as a standard product temperature-measuring device.

■ 10. Subpart C of part 431 is amended by revising the undesignated center heading following § 431.62 and adding

new §§ 431.63 and 431.64, to read as follows:

**Test Procedures**

**§ 431.63 Materials incorporated by reference.**

(a) *General.* The Department incorporates by reference the following test procedures into subpart C of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *Test procedures incorporated by reference.* (1) American National Standards Institute (ANSI)/Association of Home Appliance Manufacturers (AHAM) Standard HRF–1–2004, “Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers.”

(2) Air-Conditioning and Refrigeration Institute (ARI) Standard 1200–2006, “Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets.”

(c) *Availability of references—(1) Inspection of test procedures.* The test procedures incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(ii) U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

(2) *Obtaining copies of standards.* (i) Anyone can purchase a copy of ANSI/AHAM HRF-1-2004, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers," from the American National Standards Institute, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293-8020, or <http://www.ansi.org>.

(ii) Anyone can obtain a copy of ARI Standard 1200-2006, "Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets," from the Air-Conditioning and Refrigeration Institute, 4100 N. Fairfax Dr., Suite 200, Arlington, VA 22203 or <http://www.ari.org/std/standards.html>.

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

(a) *Scope.* This section provides the test procedures for measuring, pursuant to EPCA, the daily energy consumption in kilowatt hours per day (kWh/day) for a given product category and volume or total display area of commercial refrigerators, freezers, and refrigerator-freezers.

(b) *Testing and calculations.* (1) 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 1200-2006, "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 1200-2006, 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)

(2) Conduct the testing required in paragraphs (b)(1) 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.

Category	Test procedure	Integrated average temperatures
(i) Refrigerator with Solid Door(s) .....	ARI Standard 1200-2006*	38 °F (±2 °F).
(ii) Refrigerator with Transparent Door(s) .....	ARI Standard 1200-2006*	38 °F (±2 °F).
(iii) Freezer with Solid Door(s) .....	ARI Standard 1200-2006*	0 °F (±2 °F).
(iv) Freezer with Transparent Door(s) .....	ARI Standard 1200-2006*	0 °F (±2 °F).
(v) Refrigerator-Freezer with Solid Door(s) .....	ARI Standard 1200-2006*	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 1200-2006*	38 °F (±2 °F).
(vii) Ice-Cream Freezer .....	ARI Standard 1200-2006*	- 15.0 °F (±2 °F).
(viii) Commercial Refrigerator, Freezer, and Refrigerator-Freezer with a Self-Contained Condensing Unit and without Doors.	ARI Standard 1200-2006*	(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 1200-2006*	(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.

(3) Determine the volume of each covered commercial refrigerator, freezer, or refrigerator-freezer using the methodology set forth in the ANSI/AHAM HRF-1-2004, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers," (Incorporated by reference, see § 431.63) section 3.21, "Volume," sections 4.1 through 4.3, "Method for Computing Total Refrigerated Volume and Total Shelf Area of Household

Refrigerators and Household Wine Chillers," and sections 5.1 through 5.3, "Method for Computing Total Refrigerated Volume and Total Shelf Area of Household Freezers."

■ 11. Section 431.95 is amended by revising paragraph (b)(2) to read as follows:

**§ 431.95 Materials incorporated by reference.**

\* \* \* \* \*

(b) \* \* \*

(2) ARI Standard 340/360-2004, "Performance Rating of Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment."

\* \* \* \* \*

■ 12. Section 431.96 is revised to read as follows:

**§ 431.96 Uniform test method for the measurement of energy efficiency of small, large, and very large commercial package air conditioning and heating equipment, packaged terminal air conditioners, and packaged terminal heat pumps.**

(a) *Scope.* This section contains test procedures for measuring, pursuant to

EPCA, the energy efficiency of any small, large, or very large commercial package air-conditioning and heating equipment, packaged terminal air conditioner, or packaged terminal heat pump.

(b) *Testing and calculations.* Determine the energy efficiency of each

covered product by conducting the test procedure(s) listed in the rightmost column of Table 1 of this section, that apply to the energy efficiency descriptor for that product, category, and cooling capacity.

**TABLE 1 TO § 431.96.—TEST PROCEDURES FOR ALL SMALL COMMERCIAL PACKAGE AIR-CONDITIONING AND HEATING EQUIPMENT, FOR LARGE COMMERCIAL PACKAGE AIR-CONDITIONING AND HEATING EQUIPMENT, FOR VERY LARGE COMMERCIAL PACKAGE AIR-CONDITIONING AND HEATING EQUIPMENT, AND FOR PACKAGED TERMINAL AIR-CONDITIONERS, AND PACKAGED TERMINAL HEAT PUMPS**

Product	Category	Cooling capacity	Energy efficiency descriptor	Use tests, conditions and procedures <sup>1</sup> in
Small Commercial Packaged Air Conditioning and Heating Equipment.	Air Cooled, 3 Phase, AC and HP.	<65,000 Btu/h .....	SEER .....	ARI Standard 210/240–2003.
	Air Cooled AC and HP.	≥65,000 Btu/h and <135,000 Btu/h	EER .....	ARI Standard 340/360–2004.
	Water Cooled and Evaporatively Cooled AC.	<65,000 Btu/h .....	COP .....	ARI Standard 340/360–2004.
	Water-Source HP ...	≥65,000 Btu/h and <135,000 Btu/h.	EER .....	ARI Standard 210/240–2003.
Large Commercial Packaged Air-Conditioning and Heating Equipment.	Air Cooled AC and HP.	<135,000 Btu/h .....	EER .....	ARI Standard 340/360–2004.
	Water Cooled AC ...	≥65,000 Btu/h and <135,000 Btu/h.	EER .....	ARI Standard 340/360–2004.
	Evaporatively Cooled AC.	<135,000 Btu/h .....	EER .....	ISO Standard 13256–1 (1998).
Very Large Commercial Packaged Air-Conditioning and Heating Equipment.	Air Cooled AC and HP.	≥135,000 Btu/h and <240,000 Btu/h.	COP .....	ISO Standard 13256–1 (1998).
	AC and HP .....	≥135,000 Btu/h and <240,000 Btu/h.	EER .....	ARI Standard 340/360–2004.
Packaged Terminal Air-Conditioners and Heat Pumps.	HP .....	≥240,000 Btu/h and <760,000 Btu/h.	COP .....	ARI Standard 340/360–2004.
	HP .....	All .....	EER .....	ARI Standard 310/380–2004.
		All .....	COP .....	ARI Standard 310/380–2004.

<sup>1</sup> Incorporated by reference, see § 431.95.

■ 13. Section 431.97 is amended by revising paragraph (a) (Tables 1 and 2 remain unchanged), (b), and amending the table to paragraph (b) by revising the third entry under the “Product” column to read as follows:

**§ 431.97 Energy efficiency standards and their effective dates.**

(a) Each commercial air conditioner and heat pump manufactured on or after

January 1, 1994 (except for large commercial package air-conditioning and heating equipment, for which the effective date is January 1, 1995) and before January 1, 2010, in the case of air-cooled equipment with a capacity equal to or greater than 65,000 Btu per hour, must meet the applicable minimum energy efficiency standard level(s) set forth in Tables 1 and 2 of this section.

\* \* \* \* \*

(b) Air-cooled commercial package air-conditioning and heating equipment manufactured on or after January 1, 2010, with cooling capacities equal to or greater than 65,000 Btu/h and less than 760,000 Btu/h, shall have Energy Efficiency Ratio and Coefficient of Performance no less than:

Product	Cooling capacity (Btu/h)	Category	Efficiency level†
Very large commercial package air-conditioning and heating equipment (air-cooled)			

\* \* \* \* \*

■ 14. Section 431.132 is amended by adding in alphabetical order new definitions for “Basic model,” “Cube type ice,” “Energy use,” “Ice-making head,” “Maximum condenser water use,” “Remote compressor,” “Remote

condensing,” and “Self-contained” to read as follows:

**§ 431.132 Definitions concerning automatic commercial ice makers.**

\* \* \* \* \*

*Basic model* means, with respect to automatic commercial ice makers, all units of a given type of automatic commercial ice maker (or class thereof) manufactured by one manufacturer and which have the same primary energy

source, which have electrical characteristics that are essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

*Cube type ice* means ice that is fairly uniform, hard, solid, usually clear, and generally weighs less than two ounces (60 grams) per piece, as distinguished from flake, crushed, or fragmented ice.

*Energy use* means the total energy consumed, stated in kilowatt hours per one-hundred pounds (kWh/100 lb) of ice and stated in multiples of 0.1. For remote condensing automatic commercial ice makers, total energy consumed shall include condenser fan power.

\* \* \* \* \*

*Ice-making head* means automatic commercial ice makers that do not contain integral storage bins, but are generally designed to accommodate a variety of bin capacities. Storage bins entail additional energy use not included in the reported energy consumption figures for these units.

*Maximum condenser water use* means the maximum amount of water used by the condensing unit (if water-cooled), stated in gallons per 100 pounds (gal/100 lb) of ice, in multiples of 1.

*Remote compressor* means a type of automatic commercial ice maker in which the ice-making mechanism and compressor are in separate sections.

*Remote condensing* means a type of automatic commercial ice maker in which the ice-making mechanism and condenser or condensing unit are in separate sections.

*Self-contained* means a type of automatic commercial ice maker in which the ice-making mechanism and storage compartment are in an integral cabinet.

■ 15. Subpart H of part 431 is amended by revising the undesignated center heading following § 431.132 and adding new §§ 431.133 and 431.134, to read as follows:

#### Test Procedures

##### § 431.133 Materials incorporated by reference.

(a) *General.* The Department incorporates by reference the following test procedures into subpart H of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *Test procedures incorporated by reference.* (1) Air-Conditioning and Refrigeration Institute (ARI) Standard 810–2003, “Performance Rating of Automatic Commercial Ice-Makers.”

(2) American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 29–1988 (RA 2005), “Methods of Testing Automatic Ice Makers.”

(c) *Availability of references—*(1) *Inspection of test procedures.* The test procedures incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(ii) U.S. Department of Energy, Forrestal Building, Room 1J–018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585–0121, (202) 586–9127, between 9 a.m. and 4 p.m.,

Monday through Friday, except Federal holidays.

(2) *Obtaining copies of test procedures.* (i) Anyone can obtain a copy of ARI Standard 810–2003 from the Air-Conditioning and Refrigeration Institute, 4100 N. Fairfax Dr., Suite 200, Arlington, VA 22203 or <http://www.ari.org/std/standards.htm>.

(ii) Anyone can purchase a copy of ASHRAE Standard 29–1988 (RA 2005), “Methods of Testing Automatic Ice Makers,” from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329, (404) 636–8400, or <http://www.ashrae.org>.

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

(a) *Scope.* This section provides the test procedures for measuring, pursuant to EPCA, the energy use in kilowatt hours per 100 pounds of ice (kWh/100 lbs ice) and the condenser water use in gallons per 100 pounds of ice (gal/100 lbs ice).

(b) *Testing and Calculations.* Determine the energy consumed and the condenser water use rate of each covered product by conducting the test procedures, set forth in the Air-Conditioning and Refrigeration Institute’s Standard 810–2003, “Performance Rating of Automatic Commercial Ice-Makers,” section 4, “Test Requirements,” and section 5, “Rating Requirements.” (Incorporated by reference, see § 431.133) Do not use the formula in section 8.3 of ANSI/ASHRAE Standard 29–1988 (RA 2005) for calculating the power consumption, but instead calculate the energy use rate (kWh/100 lbs Ice) by dividing the energy consumed during testing by the total mass of the ice produced during the time period over which energy consumption is measured, normalized to 100 pounds of ice as follows:

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

■ 16. Section 431.202 is amended by adding in alphabetical order new definitions for “Basic model,” “Face,” and “Input power demand” to read as follows:

##### § 431.202 Definitions concerning illuminated exit signs.

*Basic model* means, with respect to illuminated exit signs, all units of a given type of illuminated exit sign (or class thereof) manufactured by one manufacturer and which have the same primary energy source, which have electrical characteristics that are

essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

*Face* means an illuminated side of an illuminated exit sign.

\* \* \* \* \*

*Input power demand* means the amount of power required to

continuously illuminate an exit sign model, measured in watts (W). For exit sign models with rechargeable batteries, input power demand shall be measured with batteries at full charge.

■ 17. Subpart L of part 431 is amended by revising the undesignated center heading following § 431.202 and adding new §§ 431.203 and 431.204, to read as follows:

#### Test Procedures

##### § 431.203 Materials incorporated by reference.

(a) *General.* The Department incorporates by reference the following test procedures into subpart L of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless and until DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *Test procedure incorporated by reference.* Environmental Protection Agency “ENERGY STAR Program Requirements for Exit Signs,” Version 2.0 issued January 1, 1999.

(c) *Availability of reference—(1) Inspection of test procedure.* The test procedure incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(ii) U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

(2) *Obtaining copies of the standard.* Copies of the Environmental Protection Agency “ENERGY STAR Program Requirements for Exit Signs,” Version 2.0, may be obtained from the Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460,

(202) 272-0167 or at <http://www.epa.gov>.

##### § 431.204 Uniform test method for the measurement of energy consumption of illuminated exit signs.

(a) *Scope.* This section provides the test procedure for measuring, pursuant to EPCA, the input power demand of illuminated exit signs. For purposes of this part 431 and EPCA, the test procedure for measuring the input power demand of illuminated exit signs shall be the test procedure specified in § 431.203(b).

(b) *Testing and Calculations.* Determine the energy efficiency of each covered product by conducting the test procedure, set forth in the Environmental Protection Agency’s “ENERGY STAR Program Requirements for Exit Signs,” Version 2.0, section 4 (Test Criteria), “Conditions for testing” and “Input power measurement.” (Incorporated by reference, see § 431.203)

■ 18. Section 431.222 is amended by adding in alphabetical order new definitions for “Basic model,” “Maximum wattage,” and “Nominal wattage,” to read as follows:

##### § 431.222 Definitions concerning traffic signal modules and pedestrian modules.

*Basic model* means, with respect to traffic signal modules and pedestrian modules, all units of a given type of traffic signal module or pedestrian module (or class thereof) manufactured by one manufacturer and which have the same primary energy source, which have electrical characteristics that are essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

*Maximum wattage* means the power consumed by the module after being operated for 60 minutes while mounted in a temperature testing chamber so that the lensed portion of the module is outside the chamber, all portions of the module behind the lens are within the chamber at a temperature of 74 °C and the air temperature in front of the lens is maintained at a minimum of 49 °C.

*Nominal wattage* means the power consumed by the module when it is operated within a chamber at a temperature of 25 °C after the signal has been operated for 60 minutes.

\* \* \* \* \*

■ 19. Subpart M of part 431 is amended by revising the undesignated center heading following § 431.222 and adding new §§ 431.223 and 431.224, to read as follows:

#### Test Procedures

##### § 431.223 Materials incorporated by reference.

(a) *General.* The Department incorporates by reference the following test procedures into subpart M of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless and until DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *List of test procedures incorporated by reference.* (1) Environmental Protection Agency, “ENERGY STAR Program Requirements for Traffic Signals,” Version 1.1 issued February 4, 2003.

(2) Institute of Transportation Engineers (ITE), “Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement,” June 27, 2005.

(c) *Availability of references—(1) Inspection of test procedures.* The test procedures incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(ii) U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

(2) *Obtaining copies of standards.* Standards incorporated by reference may be obtained from the following sources:

(i) Copies of the Environmental Protection Agency “ENERGY STAR Program Requirements for Traffic Signals,” Version 1.1, may be obtained from the Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272-0167 or at <http://www.epa.gov>.

(ii) Institute of Transportation Engineers, 1099 14th Street, NW., Suite 300 West, Washington, DC 20005-3438, (202) 289-0222, or [ite\\_staff@ite.org](mailto:ite_staff@ite.org).

**§ 431.224 Uniform test method for the measurement of energy consumption for traffic signal modules and pedestrian modules.**

(a) *Scope.* This section provides the test procedures for measuring, pursuant to EPCA, the maximum wattage and nominal wattage of traffic signal modules and pedestrian modules. For purposes of 10 CFR part 431 and EPCA, the test procedures for measuring the maximum wattage and nominal wattage of traffic signal modules and pedestrian modules shall be the test procedures specified in § 431.223(b).

(b) *Testing and Calculations.* Determine the nominal wattage and maximum wattage of each covered traffic signal module or pedestrian module by conducting the test procedure set forth in Environmental Protection Agency, "ENERGY STAR Program Requirements for Traffic Signals," Version 1.1, section 1, "Definitions," and section 4, "Test Criteria." (Incorporated by reference, see § 431.223) Use a wattmeter having an accuracy of  $\pm 1\%$  to measure the nominal wattage and maximum wattage of a red and green traffic signal module, and a pedestrian module when conducting the photometric and colorimetric tests as specified by the testing procedures in VTCSH 2005.

■ 19a. Amend § 431.226 by revising paragraph (a) to read as follows:

**§ 431.226 Energy conservation standards and their effective dates.**

\* \* \* \* \*

(a) Have a nominal wattage and maximum wattage no greater than:

\* \* \* \* \*

■ 20. Section 431.242 is amended by adding in alphabetical order new definitions for "Automatic flue damper," "Automatic vent damper," "Intermittent ignition device," "Power venting," and "Warm air furnace" to read as follows:

**§ 431.242 Definitions concerning unit heaters.**

*Automatic flue damper* means a device installed in the flue outlet or in the inlet of or upstream of the draft control device of an individual, automatically operated, fossil fuel-fired appliance that is designed to automatically open the flue outlet during appliance operation and to automatically close the flue outlet when the appliance is in a standby condition.

*Automatic vent damper* means a device intended for installation in the venting system of an individual, automatically operated, fossil fuel-fired appliance either in the outlet or downstream of the appliance draft control device, which is designed to automatically open the venting system when the appliance is in operation and to automatically close off the venting system when the appliance is in a standby or shutdown condition.

*Intermittent ignition device* means an ignition device in which the ignition source is automatically shut off when the appliance is in an off or standby condition.

*Power venting* means a venting system that uses a separate fan, either integral to the appliance or attached to the vent pipe, to convey products of combustion and excess or dilution air through the vent pipe.

\* \* \* \* \*

*Warm air furnace* means commercial warm air furnace as defined in § 431.72.

\* \* \* \* \*

■ 20a. Amend § 431.246 by revising paragraph (b) to read as follows:

**§ 431.246 Energy conservation standards and their effective dates.**

\* \* \* \* \*

(b) Have power venting or an automatic flue damper. An automatic vent damper is an acceptable alternative to an automatic flue damper for those unit heaters where combustion air is drawn from the conditioned space.

■ 21. Section 431.262 is amended by adding in alphabetical order a new definition for "Basic model" to read as follows:

**§ 431.262 Definitions concerning commercial prerinse spray valves.**

*Basic model* means, with respect to commercial prerinse spray valves, all units of a given type of commercial prerinse spray valve (or class thereof) manufactured by one manufacturer and which have the identical flow control mechanism attached to or installed within the fixture fitting, or the identical water-passage design features that use the same path of water in the highest flow mode.

\* \* \* \* \*

■ 22. Subpart O of part 431 is amended by revising the undesignated center heading following § 431.262 and adding new §§ 431.263 and 431.264, to read as follows:

**Test Procedures**

**§ 431.263 Materials incorporated by reference.**

(a) *General.* The Department incorporates by reference the following test procedure into subpart O of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *Test procedure incorporated by reference.* American Society for Testing and Materials (ASTM) Standard F2324-03, "Standard Test Method for Prerinse Spray Valves," October, 2003.

(c) *Availability of reference—(1) Inspection of the test procedure.* The test procedure incorporated by reference is available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

(ii) U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

(2) *Obtaining a copy of the standard.* The standard incorporated by reference may be obtained from the following source: Copies of ASTM Standard F2324-03 can be obtained from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, or telephone (610) 832-9585.

**§ 431.264 Uniform test method for the measurement of flow rate for commercial prerinse spray valves.**

(a) *Scope.* This section provides the test procedure for measuring, pursuant to EPCA, the water consumption flow rate of commercial prerinse spray valves.

(b) *Testing and Calculations.* The test procedure to determine the water consumption flow rate for prerinse spray valves, expressed in gallons per minute (gpm) or liters per minute (L/

min), shall be conducted in accordance with the test requirements specified in sections 4.1 and 4.2 (Summary of Test Method), 5.1 (Significance and Use), 6.1 through 6.9 (Apparatus) except 6.5, 9.1 through 9.5 (Preparation of Apparatus), and 10.1 through 10.2.5. (Procedure), and calculations in accordance with sections 11.1 through 11.3.2

(Calculation and Report) of the ASTM F2324-03, "Standard Test Method for Prerinse Spray Valves." (Incorporated by reference, see § 431.263) Perform only the procedures pertinent to the measurement of flow rate. Record measurements at the resolution of the test instrumentation. Round off calculations to the same number of significant digits as the previous step. Round the final water consumption value to one decimal place as follows:

- (1) A fractional number at or above the midpoint between two consecutive decimal places shall be rounded up to the higher of the two decimal places; or
- (2) A fractional number below the midpoint between two consecutive decimal places shall be rounded down to the lower of the two decimal places.

■ 23. Part 431 is amended by adding a new subpart Q to read as follows:

**Subpart Q—Refrigerated Bottled or Canned Beverage Vending Machines**

Sec.

431.291 Scope.

431.292 Definitions concerning refrigerated bottled or canned beverage vending machines.

**Test Procedures**

431.293 Materials incorporated by reference.

431.294 Uniform test method for the measurement of energy consumption of refrigerated bottled or canned beverage vending machines.

**Subpart Q—Refrigerated Bottled or Canned Beverage Vending Machines**

**§ 431.291 Scope.**

This subpart specifies test procedures for certain commercial refrigerated bottled or canned beverage vending machines, pursuant to part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311-6316.

**§ 431.292 Definitions concerning refrigerated bottled or canned beverage vending machines.**

*Basic model* means, with respect to refrigerated bottled or canned beverage vending machines, all units of a given type of refrigerated bottled or canned beverage vending machine (or class thereof) manufactured by one manufacturer and which have the same primary energy source, which have electrical characteristics that are

essentially identical, and which do not have any differing electrical, physical, or functional characteristics that affect energy consumption.

*Refrigerated bottled or canned beverage vending machine* means a commercial refrigerator that cools bottled or canned beverages and dispenses the bottled or canned beverages on payment.

**Test Procedures**

**§ 431.293 Materials incorporated by reference.**

(a) *General.* The Department incorporates by reference the following test procedures into subpart Q of part 431. The Director of the Federal Register has approved the material listed in paragraph (b) of this section for incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to this material by the standard-setting organization will not affect the DOE test procedures unless DOE amends its test procedures. The Department incorporates the material as it exists on the date of the approval by the Federal Register and a notice of any change in the material will be published in the **Federal Register**.

(b) *Test procedures incorporated by reference.* (1) American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 32.1-2004, "Methods of Testing for Rating Vending Machines for Bottled, Canned, and Other Sealed Beverages."

(2) American National Standards Institute (ANSI)/Association of Home Appliance Manufacturers (AHAM) Standard HRF-1-2004, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers."

(c) *Availability of references—(1) Inspection of test procedures.* The test procedures incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

(ii) U.S. Department of Energy, Forrestal Building, Room 1J-018 (Resource Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585-0121, (202) 586-9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

(2) *Obtaining copies of the standard.*

(i) Anyone can purchase a copy of

ANSI/ASHRAE Standard 32.1-2004, "Methods of Testing for Rating Vending Machines for Bottled, Canned, and Other Sealed Beverages" from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1791 Tullie Circle NE., Atlanta, GA 30329-2305, (404) 636-8400, or <http://www.ashrae.org>.

(ii) Anyone can purchase a copy of ANSI/AHAM HRF-1-2004, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers," from the American National Standards Institute, 1819 L Street, NW., 6th floor, Washington, DC 20036, (202) 293-8020, or <http://www.ansi.org>.

**§ 431.294 Uniform test method for the measurement of energy consumption of refrigerated bottled or canned beverage vending machines.**

(a) *Scope.* This section provides test procedures for measuring, pursuant to EPCA, the energy consumption of refrigerated bottled or canned beverage vending machines.

(b) *Testing and Calculations.* (1) The test procedure for energy consumption of refrigerated bottled or canned beverage vending machines shall be conducted in accordance with the test procedures specified in section 4, "Instruments," section 5, "Vending Machine Capacity," section 6, "Test Conditions," and sections 7.1 through 7.2.3.2, under "Test Procedures," of ANSI/ASHRAE Standard 32.1-2004, "Methods of Testing for Rating Vending Machines for Bottled, Canned, and Other Sealed Beverages." (Incorporated by reference, see § 431.293) In Section 6.2, "Voltage and Frequency," test equipment with dual nameplate voltages at the lower of the two voltages only.

(2) Determine "vendible capacity" of refrigerated bottled or canned beverage vending machines in accordance with the second paragraph of section 5, "Vending Machine Capacity," of ANSI/ASHRAE Standard 32.1-2004, "Methods of Testing for Rating Vending Machines for Bottled, Canned, and Other Sealed Beverages," (Incorporated by reference, see § 431.293) and measure "refrigerated volume" of refrigerated bottled or canned beverage vending machines in accordance with the methodology specified in section 5.2, "Total Refrigerated Volume," (excluding subsections 5.2.2.2 through 5.2.2.4) of the ANSI/AHAM HRF-1-2004, "Energy, Performance and Capacity of Household Refrigerators, Refrigerator-Freezers and Freezers," (Incorporated by reference, see §§ 431.63 and 431.293).

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