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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF ENERGY

10 CFR Part 430

[Docket No. EERE-2007-BT-TP-0013]

RIN 1904-AB72

Energy Conservation Program: Test Procedures for General Service Fluorescent Lamps, Incandescent Reflector Lamps, and General Service Incandescent Lamps

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

ACTION: Notice of proposed rulemaking.

SUMMARY: The Department of Energy (DOE) is proposing amendments to its test procedures for fluorescent and incandescent lamps, which lamp manufacturers are required to use to certify compliance with energy conservation standards mandated under the Energy Policy and Conservation Act (EPCA). Specifically, these amendments update the citations and references to the most recent version of the industry standards currently referenced in DOE's test procedures, as well as make a small number of technical modifications. DOE notes that this notice of proposed rulemaking (NOPR) is being issued concurrently with an energy conservation standards advance notice of proposed rulemaking (ANOPR) on general service fluorescent lamps (GSFL) and incandescent reflector lamps (IRL). The energy conservation standards ANOPR starts the process for evaluating the existing standards for certain GSFL and IRL to determine whether higher standard levels would be technologically feasible and economically justified, and would result in significant conservation of energy. The ANOPR also discusses whether the scope of standards should be expanded to cover additional GSFL. In addition, the Energy Independence and Security Act of 2007 (EISA 2007) extended energy conservation standards coverage to general service incandescent lamps (GSIL). Accordingly, this notice also

proposes other amendments to DOE's test procedures for fluorescent and incandescent lamps in order to provide appropriate methods to test these additional lamps. DOE intends to use these amendments to the fluorescent lamp test procedure (with modifications possible based upon agency review of public comments), if it adopts standards for the additional lamps.

DATES: DOE held a public meeting in Washington, DC that began on March 10, 2008. The agenda for the public meeting covered both this test procedure rulemaking and the concurrent energy conservation standards rulemaking for these lighting products.

DOE began accepting comments, data, and information regarding the NOPR at the public meeting, and will continue to accept comments until no later than May 27, 2008. See Section IV, "Public Participation," of this NOPR for details.

ADDRESSES: The public meeting was held at the U.S. Department of Energy, Forrestal Building, Room 8E-089, 1000 Independence Avenue, SW., Washington, DC 20585-0121.

Any comments submitted must identify the Notice of Proposed Rulemaking on Test Procedures for General Service Fluorescent Lamps, Incandescent Reflector Lamps and General Service Incandescent Lamps, and provide the docket number EERE-2007-BT-TP-0013 and/or Regulation Identifier Number (RIN) 1904-AB72. Comments may be submitted using any of the following methods:

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

- *E-mail:* Lamps_Test_Procedure@ee.doe.gov. Include the docket number EERE-2007-BT-TP-0013 and/or RIN 1904-AB72 in the subject line of the message.

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

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

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

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

FOR FURTHER INFORMATION CONTACT: Ms. Linda Graves, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2J, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Telephone: (202) 586-1851. E-mail: Linda.Graves@ee.doe.gov.

Ms. Francine Pinto or Mr. Eric Stas, U.S. Department of Energy, Office of the General Counsel, GC-72, 1000 Independence Avenue, SW., Washington, DC 20585. Telephone: (202) 586-9507. E-mail: Francine.Pinto@hq.doe.gov or Eric.Stas@hq.doe.gov.

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

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I. Background

Title III of the Energy Policy and Conservation Act (42 U.S.C. 6291 *et seq.*; EPCA) sets forth a variety of provisions designed to improve energy efficiency. Part B of Title III (42 U.S.C. 6291–6309) establishes the “Energy Conservation Program for Consumer Products Other Than Automobiles.” The consumer and commercial products currently subject to this program (hereinafter referred to as “covered products”) include GSFL, IRL, and GSIL. Manufacturers of covered products are required to use the relevant DOE test procedures to certify compliance with the energy conservation standards adopted under

EPCA. The statutory provisions of particular relevance to the present rulemaking are discussed immediately below.

Under section 323(b) of EPCA, DOE is authorized to amend or establish new test procedures as appropriate for each of the covered products. (42 U.S.C. 6293(b)) EPCA states that “[a]ny test procedures prescribed or amended under this section shall be reasonably designed to produce test results which measure energy efficiency, energy use, water use (in the case of showerheads, faucets, water closets and urinals), or estimated annual operating cost of a covered product during a representative average use cycle or period of use, as determined by the Secretary [of Energy], and shall not be unduly burdensome to conduct.” (42 U.S.C. 6293(b)(3)) In addition, EPCA states that “* * * the Secretary shall determine, in the rulemaking carried out with respect to prescribing such procedure, to what extent, if any, the proposed test procedure would alter the measured energy efficiency, measured energy use, or measured water use of any covered product as determined under the existing test procedure.” (42 U.S.C. 6293(e)(1))

Of particular relevance to the present rulemaking, section 323(b)(6) of EPCA directs the Secretary of Energy (the Secretary) to prescribe test procedures for fluorescent lamps and IRL to which energy conservation standards are applicable, taking into consideration the applicable standards of the Illuminating Engineering Society of North America (IESNA) or American National Standards Institute (ANSI). (42 U.S.C. 6293(b)(6)) The applicable test procedures appear at Title 10 of the Code of Federal Regulations (CFR) 430, Subpart B, Appendix R (“Uniform Test Method for Measuring Average Lamp Efficiency (LE) and Color Rendering Index (CRI) of Electric Lamps”).

Furthermore, section 325(i)(5) of EPCA directs the Secretary to consider whether the standards in effect for fluorescent lamps and incandescent lamps should be amended so that they would be applicable to additional GSFL, and, if so, to adopt standards for such lamps. (42 U.S.C. 6295(i)(5)) DOE is addressing these requirements concurrently in a separate energy conservation standard rulemaking for which an ANOPR is published in today’s **Federal Register**.¹ For those lamps being considered for coverage

¹ Energy Conservation Standards for General Service Fluorescent Lamps and Incandescent Reflector Lamps; Docket No. EE–2006–STD–0131; RIN 1904–AA92.

and for which DOE currently does not have test procedures, DOE is proposing test procedures for these products in this NOPR.

To address the EPCA requirements for lamps discussed above, DOE undertook a number of rulemaking actions pertaining to test procedures. On September 28, 1994, DOE issued an Interim Final Rule on Test Procedures for Fluorescent and Incandescent Lamps (hereinafter referred to as the September 1994 Interim Final Rule), that established test procedures for GSFL, medium-based compact fluorescent lamps, and GSIL. 59 FR 49468 (September 28, 1994) (establishing 10 CFR part 430, Subpart B, Appendix R). The test procedures incorporated by reference in the September 1994 Interim Final Rule are as follows:

ANSI Standards²

- C78.1–1991, “Fluorescent Lamps—Rapid-Start Types—Dimensional and Electrical Characteristics”;
- C78.2–1991, “Fluorescent Lamps—Preheat-Start Types—Dimensional and Electrical Characteristics”;
- C78.3–1991, “Fluorescent Lamps—Instant-Start and Cold-Cathode Types—Dimensional and Electrical Characteristics”;
- C78.375–1991, “Fluorescent Lamps—Guide for Electrical Measurements”;
- C82.3–1983, “Reference Ballasts for Fluorescent Lamps”

International Commission on Illumination³

- Publication 13.2–1974, corrected reprint 1993, “Method of Measuring and Specifying Color Rendering Properties of Light Sources”

IESNA Standards⁴

- LM–9–1988, “Approved Method for the Electrical and Photometric Measurements of Fluorescent Lamps”;
- LM–16–1984, “Practical Guide to Colorimetry of Light Sources”;
- LM–20–1982, “Approved Method for Photometric Measuring and Reporting Tests on Reflector Type Lamps”;

² The ANSI standards listed may be obtained from the American National Standards Institute, 25 W. 43rd Street, 4th Floor, New York, NY 10036. Telephone: (212) 642–4900.

³ The CIE standard listed in this paragraph may be obtained from the International Commission on Illumination, CIE Bureau Central, Kegelegasse 27, A–1030, Vienna, Austria. Telephone: +43 1–714 31 87 0. E-mail: ciecb@cie.co.at; Web site: <http://www.cie.co.at/cie/>.

⁴ The IESNA standards listed may be obtained from the Illuminating Engineering Society of North America, 120 Wall Street, Floor 17, New York, NY 10005–4001. Telephone: (212) 248–5000.

- LM-45-1991, "Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps";

- LM-58-1983, "Guide to Spectroradiometric Measurements"; and
- LM-66-1991, "Approved Method for the Electrical and Photometric Measurements of Single-Ended Compact Fluorescent Lamps"

In addition, the September 1994 Interim Final Rule included the energy conservation standards for GSFL and IRL prescribed in EPCA section 325(i)(1)(A), (42 U.S.C. 6295(i)(1)(A)), as well as definitions of terms related to standards and test procedures for lamps, and procedures for manufacturer compliance and certification with the standards.

After considering public comments, on May 29, 1997, DOE published a final rule on Test Procedures for Fluorescent and Incandescent Lamps (hereinafter referred to as the May 1997 Final Rule) that revised some of the definitions and calculation methods in the September 1994 Interim Final Rule. 62 FR 29221 (May 29, 1997). In addition to (or in some cases in substitution for) those standards referenced above, the May 1997 Final Rule incorporated by reference the following standards:

ANSI Standards

- C78.21-1989, "Incandescent Lamps—PAR and R Shapes"; and
- C79.1-1994, "Nomenclature for Glass Bulbs—Intended for Use with Electric Lamps"

IESNA Standards and Publications

- LM-16-1993, "Practical Guide to Colorimetry of Light Sources";
- LM-20-1994, "Approved Method for Photometric Testing of Reflector-Type Lamps";
- LM-58-1994, "Guide to Spectroradiometric Measurements"; and
- Chapter 6 (Light Sources) of *Illuminating Engineering Society of North America Lighting Handbook, Reference and Application*, 8th Edition, 1993.

The May 1997 Final Rule incorporated the IESNA Standard LM-66-1991 in its entirety, but removed the standard's test requirement to use a reference ballast so that an integrally ballasted compact fluorescent lamp can be tested. 62 FR 29221, 29234 (May 29, 1997).

To implement recent amendments to EPCA contained in the Energy Policy Act of 2005 (Pub. L. 109-58) (EPACT 2005), DOE published a final rule in the **Federal Register** (hereinafter referred to as the December 2006 Final Rule), which prescribed test procedures for

eleven types of products for which EPACT 2005 identified specific test procedures (including medium screw-based compact fluorescent lamps) on which the Federally-mandated test procedures are to be based. 71 FR 71340 (December 8, 2006). Specifically, the December 2006 Final Rule incorporated test procedures for medium-based compact fluorescent lamps (CFL) by adopting the August 9, 2001 version of the ENERGY STAR program requirements for CFL (version 2.0).

On December 19, 2007, the President signed the Energy Independence and Security Act of 2007 (Pub. L. 110-140), which makes numerous amendments to EPCA and directs DOE to undertake several new rulemakings for appliance energy efficiency standards. EISA 2007 amends energy conservation standards for IRL and provides new energy conservation standards for GSIL. In addition, EISA 2007 provides several definitions related to products covered by this rulemaking. Furthermore, for all covered products, EISA 2007 directs DOE to amend its test procedure to incorporate a measure of standby mode and off mode energy consumption, if feasible. (42 U.S.C. 6295(gg)(2))

II. Summary of the Proposal

This NOPR proposes to modify DOE's current test procedures for electric lamps in order to achieve three objectives: (1) To update a number of lighting industry standards incorporated by reference; (2) to adopt certain technical changes and clarifications; (3) to expand the test procedures to accommodate new classes of lamps being considered for coverage under an amended energy conservation standard or additional lamps for which EISA 2007 established energy conservation standards; and (4) to address the statutory requirement to expand test procedures to incorporate a measure of standby mode and off mode energy consumption. These proposed changes are summarized below.

A. Updates to Standards Incorporated by Reference

In seeking to implement recent amendments to EPCA, DOE determined that several of the lighting industry standards referenced in 10 CFR part 430 have been superseded by new editions, have been withdrawn, and, in many cases, are no longer commercially available. Today's NOPR discusses the proposed updates to standards applicable to the test procedures for GSFL, IRL, GSIL, and CFL, and it also describes DOE's basis for proposing to update the CFR with the most recent versions of certain industry testing

references in its regulations to the most recent versions. DOE requests comments on these proposed revisions, including any impacts associated with migration to the most recent version of standard currently incorporated by reference.

Specifically, today's notice proposes the incorporation by reference of the ANSI C78.375-1997, "American National Standard for Fluorescent Lamps—Guide for Electrical Measurements"; ANSI C78.81-2005, "American National Standard for Electric Lamps—Double-Capped Fluorescent Lamps—Dimensional and Electrical Characteristics" and ANSI C78.901-2005, "American National Standard for Electric Lamps—Single-Based Fluorescent Lamps—Dimensional and Electrical Characteristics"; and ANSI C82.3-2002, "American National Standard for Reference Ballasts for Fluorescent Lamps." These revisions of ANSI standards replace the older standards, C78.375-1991, C78.1-1991, C78.2-1991, C78.3-1991, and C82.3-1983, incorporated by reference in the September 1994 Interim Final Rule.

This notice also proposes the incorporation by reference of the IESNA LM-9-1999 and IESNA LM-45-2000 for measuring the electrical and photometric attributes of fluorescent lamps and general service incandescent filament lamps, respectively. These versions of the IESNA standards would replace the older standards, IESNA LM-9-1988 and IESNA LM-45-1991, that were incorporated by reference in the September 1994 Interim Final Rule.

Additionally, this notice proposes to remove the reference to IESNA LM-16-1993, which is a guide to the colorimetry of light sources, and IESNA LM-66-1991, which concerns the testing of medium-based compact fluorescent lamps. Both of these standards were incorporated by reference in the May 1997 Final Rule. DOE considers IESNA LM-66 testing standard superseded by the compact fluorescent lamp test method adopted in 10 CFR 430, Subpart B, Appendix W ("Uniform Test Method for Measuring the Energy Consumption of Medium Base Compact Fluorescent Lamps") as part of the December 2006 Final Rule.

This notice also proposes to incorporate by reference the method for measuring and specifying color rendering properties of light sources, found in the International Commission on Illumination (CIE) Publication 13.3-1995, which replaces the older publication, CIE Publication No. 13.2-1974 (corrected reprint 1993), incorporated by reference in the September 1994 Interim Final Rule.

B. Technical Amendments

In addition to incorporation by reference updates, this notice proposes to continue to require that testing of GSFL be based on low-frequency reference ballasts, except for those lamps which can only be tested on high-frequency ballasts. That is to say, where the newly-referenced ANSI standards allow for both low- and high-frequency measurement, DOE proposes to require that manufacturers continue to report on the lamp performance using the low-frequency reference ballast. By maintaining fluorescent lamp testing on low-frequency ballasts when possible, DOE believes that the proposed updates to more current ANSI standards would not alter the measured efficacy of fluorescent lamps.

DOE is also proposing to amend certain provisions in its regulations for calculating and reporting lamp efficacy. Specifically, DOE proposes that lamp efficacy for GSFL be rounded to the nearest tenth of a lumen per watt rather than the nearest whole number, as it is now. DOE notes that the fluorescent lamp standards established by EPCACT 1992 set efficacy requirements that are to the tenths decimal place (e.g., 75.0 lumens per watt for 4-foot medium bipin lamps). DOE proposes changing the rounding practice for GSFL efficacy measurements to round to the nearest tenth of a lumen per watt for two reasons. First, the measured efficacy for the sample of lamps tested would be reported to the same degree of accuracy as the standard prescribed in EPCACT 1992. Second, in conducting analyses for the energy conservation standards ANOPR, DOE found that in order to have standard levels for GSFL that are best able to maximize energy savings, it must utilize the tenths decimal place for the ANOPR analysis. Furthermore, DOE's proposed approach would promote consistency with other lamp types already tested (e.g., lamp efficacy for IRL is rounded to the nearest tenth of a lumen per watt).

Additionally, DOE is proposing in this NOPR to adopt a test method for the measurement and calculation of correlated color temperature (CCT) for fluorescent lamps and incandescent lamps. CCT is used as a metric to define "colored fluorescent lamp" in 10 CFR 430.2 and to define "colored incandescent lamp" in 42 U.S.C. 6291(30)(EE). This proposed amendment supports the energy conservation standards rulemaking ANOPR published in today's **Federal Register**, in which DOE considers establishing separate product classes for fluorescent lamps based on their CCT.

Also, in support of this consideration of separate product classes based on CCT, DOE is proposing in this NOPR to revise the definition of "basic model" such that all GSFL that are considered to be the same basic model have similar CCTs.

C. Amendments Related to Testing of Potentially Added Coverage

DOE is aware that the introduction of new 4-foot medium bipin and 2-foot U-shaped fluorescent lamps into the lighting market has effectively increased the number and types of lamps subject to DOE regulation under the existing definition of "fluorescent lamp." In addition, DOE is aware that certain 8-foot slimline and 8-foot high output lamps, as well as 8-foot very high output lamps and T5 fluorescent lamps, are not presently part of DOE's scope of coverage. In the energy conservation standards ANOPR published in today's **Federal Register**, DOE discusses its consideration of whether to adopt energy conservation standards for some of these additional fluorescent lamps. In order not to delay the rulemaking process, in this test procedures rulemaking, DOE is proposing to adopt test procedures for all of these additional fluorescent lamps that are under consideration.

DOE is also proposing to insert language in the CFR regarding the test procedure for GSIL. As stated earlier, EISA 2007 establishes energy conservation standards for GSIL. Consequently, the several necessary portions of the GSIL test procedure (e.g., specification of units to be tested and efficacy calculation methods) are not incorporated into DOE's existing test procedure, as these lamp types were not previously regulated. Therefore, in this NOPR, DOE is proposing to include these GSIL test procedure provisions in a manner consistent with the existing IRL test procedure.

D. Off Mode and Standby Mode Energy Consumption

As stated earlier, EISA 2007 directs DOE to amend its test procedure to incorporate a measure of off mode and standby mode energy consumption, if feasible. (42 U.S.C. 6295(gg)(2)) As discussed in further detail below, DOE believes that off mode and standby mode energy consumption of GSFL, IRL, and GSIL are inapplicable at the current state of the technologies. Because lamp operation in these two modes is not feasible, DOE proposes to not expand the test procedure to incorporate measurement methods for off mode or standby mode energy consumption of GSFL, IRL, and GSIL.

III. Discussion

A. Updates to Test Procedure References

As part of the DOE's rulemaking regarding energy conservation standards for lamps, DOE held a public meeting on June 15, 2006, to present and discuss the *Rulemaking Framework Document for General Service Fluorescent Lamps, Incandescent Reflector Lamps, and General Service Incandescent Lamps*⁵ (hereinafter Framework Document). 71 FR 30834 (May 31, 2006) (announcing public meeting and availability of Framework Document). Participants at the public meeting included energy and environmental groups, lamp manufacturers, State energy offices, electric utilities, and lighting consultants and designers.

In the Framework Document, DOE stated that it did not intend to update its test procedures in the lamps rulemaking. (Framework Document, No. 1.2 at pp. 8–9) At that time, DOE did not believe an update to the test procedures for lamps was necessary, as no stakeholder or manufacturer had raised this as an issue either directly with DOE or in the context of the certification reports submitted periodically for covered lamps. In Appendix D of the Framework Document, however, DOE did provide a list of the industry standards incorporated by reference in its regulations, as codified in the CFR.

In response to the Framework Document, the National Electrical Manufacturers Association (NEMA) commented that several of the methods and standards for test procedures listed in Appendix D of the Framework Document had been withdrawn and were no longer commercially available, while others had been superseded with new editions or updated in accordance with ANSI policy. NEMA urged DOE to update its regulations to use the current editions of the referenced test procedures, arguing that such action is important to minimize the administrative burden on those who conduct the testing. (NEMA, No. 8 at p. 2)⁶ GE Consumer and Industrial (GE)

⁵ A copy of the Framework Document, "Rulemaking Framework Document for General Service Fluorescent Lamps, Incandescent Reflector Lamps, and General Service Incandescent Lamps" can be found on DOE's Web site at: http://www.eere.energy.gov/buildings/appliance_standards/residential/pdfs/lamps_framework.pdf.

⁶ A notation in the form "NEMA, No. 8 at p. 2" identifies a written comment that DOE has received and has included in the docket of its energy conservation standards rulemaking for GSFL and IRL (Docket No. EE-2006-STD-0131; RIN number 1904-AA92). This particular notation refers to a comment: (1) by the National Electrical Manufacturers Association; (2) in document

also commented that DOE should update the testing standards incorporated by reference. GE stated that of the eleven standards incorporated by reference, three have been consolidated and superseded; one has been withdrawn; five have been superseded, and only two are still current. (Public Meeting Transcript, No. 4.5 at p. 30) GE asserted that having DOE regulations reference industry standards that are obsolete, withdrawn, revised, and consolidated makes compliance more problematic for regulated entities. (Public Meeting Transcript, No. 4.5 at p. 29)

As part of its comments, NEMA prepared a table which listed each of the ANSI Lamp and Ballast Standards, IESNA Test Methods,⁷ and CIE Technical Reports and Guides that DOE included in Appendix D of the Framework Document. NEMA then listed the current relevant standard, method, or guide being used by industry today. (NEMA, No. 12 at pp. 3–4) This comment very clearly presented the changes NEMA was requesting to the lighting test procedures incorporated by reference in the CFR. Specifically, NEMA identified the following references as needing revision or deletion: (1) ANSI C78.1–1991 (“For Fluorescent Lamps—Rapid Start Types—Dimensional and Electrical Characteristics”); (2) ANSI C78.2–1991 (“For Fluorescent Lamps—Preheat Start Types—Dimensional and Electrical Characteristics”); (3) ANSI C78.3–1991 (“For Fluorescent Lamps—Instant-Start and Cold-Cathode Types—Dimensional and Electrical Characteristics”); (4) ANSI C78.375–1991 (“For Fluorescent Lamps—Guide for Electrical Measurements”); (5) ANSI C82.3–1983 (“Reference Ballasts for Fluorescent Lamps”); (6) IESNA LM–9–88 (“IES Approved Method for the Electrical and Photometric Measurements of Fluorescent Lamps”); (7) IESNA LM–16–1993 (“IESNA Practical Guide to the Colorimetry of Light Sources”); (8) IESNA LM–45–1991 (“IES Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps”); and (9) the CIE Publication No. 13.2 1974, corrected reprint 1993 (“Method of Measuring and Specifying Color Rendering Properties of Light Sources,

number 8 in the docket of energy conservation standards rulemaking; and (3) appearing on page 2.

⁷ In its table, NEMA also included an IESNA testing standard for medium-based compact fluorescent lamps, which, though not included by DOE in Appendix D of the Framework Document, is incorporated by reference in DOE’s test procedures for Electric Lamps. (10 CFR 430, Subpart B, Appendix R, paragraph 4.4)

ISBN 3 900 734 39 9”). (NEMA, No. 12 at p. 2 and pp. 3–4) Finally, NEMA also identified a referenced standard for compact fluorescent lamps, IESNA LM–66–1991 (“Electrical and Photometric Measurements of Single Ended Compact Fluorescent Lamps”) which requires updating. NEMA noted that EPACT 2005 established minimum standards for single ended CFL, and the IESNA LM–66 reference needs to be updated as part of this process. (NEMA, No. 12 at p. 4)

In response, DOE has tentatively decided to update several industry standards incorporated by reference in DOE’s lighting regulations in order to ensure their availability and to facilitate testing. DOE notes that various industry lighting standards are referenced in its regulations, as codified in 10 CFR 430.2 and 430.22 and 10 CFR part 430, Subpart B, Appendix R. Although references to incorporated industry standards are generally found in the test procedures contained in DOE’s regulations, this rulemaking document also addresses other provisions of DOE’s lighting regulations where references to the identical standards require updating. Initiating such changes at one time in the context of this test procedure rulemaking is more efficient and promotes consistency across DOE’s lighting regulations. However, where it was determined that updating to a more recent version of an incorporated industry standard would effect a significant change in the scope of coverage of the regulation or other compliance requirements (e.g., changing the definition of “rated wattage” in 10 CFR 430.2), DOE reserved consideration of such updates for the standard-setting ANOPR because it believes that rulemaking to be the appropriate context for making substantive changes to energy conservation standard levels and their scope of coverage.

When considering an updated standard, DOE examines each one to ensure that a revision to DOE’s regulations would not result in a test procedure that is unduly burdensome to conduct. DOE also examines an updated standard to determine whether the amended test procedure would significantly change the measured lamp efficacy (thereby necessitating amendments to the energy conservation standard itself). Unless otherwise stated, DOE has determined that none of the referenced test procedures is burdensome to conduct, nor would they result in a change in measured energy efficiency. Thus, DOE proposes to update the standards incorporated by reference to the more recent versions recommended by stakeholders. The

updated references are discussed in detail below.

1. General Service Fluorescent Lamps

NEMA commented that the ANSI C78.1–1991, C78.2–1991, and C78.3–1991 have been collectively superseded by the 2005 edition of ANSI C78.81. These 1991 standards are referenced in DOE’s definitions of “cold-temperature fluorescent lamp,” “fluorescent lamp,” and “rated wattage.” (See 10 CFR 430.2) In addition, the test methods and measurements for GSFL incorporate elements of each of these standards. (See 10 CFR 430, Subpart B, Appendix R, paragraph 4.1.1)

Since the time of their incorporation, these industry standards have undergone several rounds of revision. The 1991 standards were consolidated in 2001 as ANSI C78.81 and ANSI C78.901. ANSI C78.81 was later revised in 2003. Both ANSI C78.81 and ANSI C78.901 were then revised in 2005. ANSI C78.81–2005, addressing dimensional and electrical characteristics for double-capped fluorescent lamps, combines and is an updated version of ANSI C78.2–1991 (which addresses dimensional and electrical characteristics for preheat start fluorescent lamps), ANSI C78.3–1991 (which addresses dimensional and electrical characteristics for instant start and cold-cathode type fluorescent lamps), and portions of ANSI C78.1–1991 (which addresses dimensional and electrical characteristics for rapid start fluorescent lamps). ANSI C78.901–2005 provides dimensional and electrical characteristics for single-based fluorescent lamps and incorporates specifications for the U-shaped lamps that were previously covered by ANSI C78.1–1991.

In a review and comparison of the 1991 and 2005 ANSI standards, DOE found that both ANSI C78.81–2005 and ANSI C78.901–2005 add a requirement that the average wattage not exceed the rated wattage by 5 percent plus 0.5 watts. In the 1991 ANSI standards, the relationship between the average and rated wattage was not defined. The new ANSI standards, with this tolerance on average wattage, would allow a lamp listed in a catalogue as being nominally 32 watts (rated at 32.5 watts in ANSI C78.81) to actually have a power as high as 34.6 watts and still be listed as nominally 32 watts. However, DOE notes that manufacturers do not use the rated wattage when calculating efficacy. Instead, they use the measured (or “average”) wattage, following the steps in DOE’s test procedure. Therefore, this new requirement that the average wattage shall not exceed the rated

wattage by 5 percent plus 0.5 watts would not change the represented efficacy of lamps tested. In other words, the efficacy represented by a lamp tested under the 1991 ANSI standards and under the 2005 ANSI standards would not differ due to this new tolerance requirement on rated wattage.

A noteworthy difference between ANSI C78.1 and ANSI C78.81 is each document's content under Annex A.2, which is referenced in DOE's definition of "rated wattage"⁸ (See 10 CFR 430.2). As mentioned earlier, in the context of "rated wattage," this difference could result in a change in coverage under the energy conservation standards. Specifically, Annex A.2 of ANSI C78.1 indicates that the lamp abbreviation may include either the rated wattage or nominal wattage for a particular lamp. However, Annex A.2 of ANSI C78.81 no longer refers to the rated wattage, specifying that the lamp abbreviation incorporates only the nominal wattage. Although Annex A.2 of ANSI C78.81 does not provide a definition of rated wattage, Clause 11.1 of the standard does identify rated wattage by referring to the rated values in the specific lamp data sheets contained in ANSI C78.81. Because the rated wattage values referred to in Annex A.2 of the outdated ANSI C78.1–1991 are different from those values identified by either Annex A.2 or Clause 11.1 of ANSI 78.81–2005, implementing this reference update in the definition of "rated wattage" (i.e., substituting ANSI C78.1 with ANSI C78.81) would substantively change that definition. Due to the fact that rated wattage is used in the definition of "fluorescent lamps," updating ANSI C78.1 to ANSI C78.81 would alter the scope of coverage for fluorescent lamps under the applicable DOE regulations (scope may increase or decrease, depending on the nominal and rated wattage of the fluorescent lamp). For this reason, DOE is not proposing to update the relevant incorporation by reference in the definition of "rated wattage" in the context of this test procedure NOPR. Instead, DOE discusses potential revisions to the "rated wattage" definition in the energy

conservation standards rulemaking, for which an ANOPR is published in today's **Federal Register**. In the ANOPR, DOE has a section where it discusses scope of coverage, including the updating of the reference from ANSI C78.1 to C78.81 in the definition of "rated wattage."

It is important to note that while DOE is not proposing to update the ANSI C78.1–1991 reference in the definition of "rated wattage" in 10 CFR 430.2, the term "rated wattage" is not used in DOE's fluorescent and incandescent lamp test procedure. Therefore, the updated fluorescent and incandescent lamp test procedure, as proposed in this NOPR, would incorporate all the most up-to-date industry standards and practices.

For several covered lamps listed in ANSI C78.1–1991, the updated ANSI C78.81–2005 adds high-frequency reference ballast settings for lamps without cathode heating. Because DOE references ANSI standard C78.1 in the test methods and measurements of GSFL, this additional option for testing may introduce a significant change in the test procedure and change in the measured efficacy. (See 10 CFR 430, Subpart B, Appendix R, paragraph 4.1.1) Fluorescent lamp operation without cathode heating generally results in a higher measured efficacy than operation with cathode heating. In addition, DOE recognizes that lamp operation on a high-frequency ballast results in significantly different lamp efficacy than lamp operation on a low-frequency ballast. Due to the fact that these lamps can be operated on both low- and high-frequency ballasts, DOE is proposing to require all lamps have their efficacy tested using the low-frequency reference ballasts. This proposal is consistent with the existing test procedure and referenced 1991 ANSI standard and will ensure that all testing will result in consistent lamp efficacy measurements. For those lamps which can only be tested on a high-frequency reference ballast (e.g., 86-Watt 8-foot T8 high output or T5 fluorescent lamps, though neither are currently covered products), DOE is proposing that manufacturers would test and report their performance using the high-frequency reference ballast settings contained in the updated 2005 ANSI standard. This issue of lamp testing on high-frequency ballasts is discussed in detail in Section III.B of this NOPR.

Finally, in 10 CFR 430.2, paragraphs (3) and (4) of the definition of "fluorescent lamp" define the scope of coverage for such lamps that are subject to energy efficiency standards by referencing the lamps contained in

ANSI C78.1 and ANSI C78.3. In paragraph (3) of the definition, the scope of "8-foot high output lamps" is limited to those lamps identified in ANSI C78.1–1991. Substituting ANSI C78.1–1991 with ANSI C78.81–2005 in paragraph (3) would not alter the scope of coverage of 8-foot high output lamps, as no additional lamps of this type are listed in ANSI C78.81. Therefore, DOE proposes in this NOPR to replace the reference to ANSI C78.1–1991 with a reference to ANSI C78.81–2005 in paragraph (3) of DOE's definition of a "fluorescent lamp."

Similarly, paragraph (4) of the definition of "fluorescent lamp" defines "8-foot slimline lamps" by referencing ANSI C78.3–1991. The updated ANSI C78.81–2005 provides lamp specification data for one additional fluorescent lamp if the reference to ANSI C78.3 was substituted with the 2005 ANSI standard in paragraph (4) of the definition. Specifically, ANSI C78.81–2005 provides lamp specification data for a 59-watt, 8-foot, T8, single pin, instant start fluorescent lamp that would fall under the definition of "8-foot slimline lamps." Thus, if DOE were to update this reference to ANSI C78.3–1991 by substituting it with ANSI C78.81–2005, DOE would be expanding its scope of coverage to additional 8-foot slimline lamps. Therefore, DOE is not proposing in this proposed rule to update the referencing of ANSI C78.3–1991 in paragraph (4) of the definition of "fluorescent lamp" in this rulemaking proceeding. However, in this test procedure NOPR, DOE is proposing to update all references to ANSI C78.3–1991 appearing in 10 CFR 430, Subpart B, Appendix R.⁹ Today's proposal, if adopted, would ensure that DOE has a test procedure for fluorescent lamps incorporating all the most up-to-date industry standards. DOE is considering the issue of the reference to the outdated ANSI C78.3–1991 in the definition of "fluorescent lamp" (and the associated expansion of coverage) in the energy conservation standard ANOPR for GSFL, IRL, and GSIL published in today's **Federal Register**.

For all the reasons set forth in the preceding paragraphs, DOE is proposing to incorporate by reference ANSI C78.81–2005 and ANSI C78.901–2005 and to delete the references to ANSI C78.1–1991 in the definition of "cold-temperature fluorescent lamp" and in

⁸ 10 CFR 430.2 defines "rated wattage" as: "Rated wattage, with respect to 4-foot medium bipin T8, T10 or T12 lamps, means: (1) If the lamp is listed in ANSI C78.1–1991, the nominal wattage of a lamp determined by the lamp designation in Annex A.2 of ANSI C78.1–1991; or (2) If the lamp is a residential straight-shaped lamp, the wattage a lamp consumes when operated on a reference ballast for which the lamp is designed; or (3) If the lamp is neither listed in ANSI C78.1–1991 nor a residential straight-shaped lamp, the wattage a lamp consumes when using reference ballast characteristics of 236 volts, 0.43 amps and 439 ohms for T10 or T12 lamps or reference ballast characteristics of 300 volts, 0.265 amps and 910 ohms for T8 lamps."

⁹ By referencing ANSI C78.81 and ANSI C78.901 in 10 CFR 430, Subpart B, Appendix R, DOE recognizes that the GSFL test procedure provides testing methods for all GSFL currently regulated by DOE as well as other lamps not included in the scope of coverage of DOE's regulations.

paragraph (3) of the definition of "fluorescent lamp" in 10 CFR 430.2. In addition, DOE proposes to incorporate by reference ANSI C78.81–2005 and ANSI C78.901–2005. DOE also proposes to delete the references to ANSI C78.1, ANSI C78.2, and ANSI C78.3 in the test methods and measurements of GSFL. (10 CFR 430, Subpart B, Appendix R, paragraph 4.1.1) DOE believes that by continuing to require that all lamps be tested on low-frequency ballasts (except those that cannot be), the revisions proposed above would not result in any additional testing burden or significant change in measured lamp efficacy.

NEMA commented that ANSI C78.375–1991 has been updated to ANSI C78.375–1997. (NEMA, No. 12 at p. 3) ANSI C78.375–1991, which is incorporated by reference, describes procedures for obtaining electrical measurements for these lamps. (See 10 CFR 430, Subpart B, Appendix R) DOE reviewed the test procedure and the ANSI updates, and it was found that the 1997 revision provides less restrictive requirements for supply voltage than the 1991 version, and it removes specifications for instrumentation usage and correction determination. These updates are based on changes in technology, and DOE believes that these revisions would not change the measured lamp efficacy. The revised 1997 ANSI standard requires that lamp testing be performed in a draft-free environment and that the test instruments are of true root mean square type.¹⁰ DOE has tentatively concluded that both of these updates would help to reduce errors and produce more consistent, accurate representations of lamp performance, without resulting in any additional testing burden or change in measured lamp efficacies. Therefore, DOE is proposing to amend the reference to ANSI C78.375–1991 by replacing it with ANSI C78.375–1997 in 10 CFR 430.22 and 10 CFR part 430, Subpart B, Appendix R.

Next, NEMA suggested that DOE amend references to ANSI C82.3–1983, which provides design features and operating characteristics for fluorescent lamp reference ballasts, by replacing it with the latest version of that standard, ANSI C82.3–2002. (NEMA, No. 12 at p. 3) ANSI C82.3–1983 is currently referenced in the test methods and measurements section of the GSFL test procedure (see 10 CFR part 430, Subpart B, Appendix R, paragraph 4.1.1). ANSI C82.3–2002 updates instrument/

calibration requirements reflective of the changes over time in the instrumentation used to test lamps. Instrumentation used today no longer requires many of the calibrations and adjustments dictated in the 1983 standard. DOE believes that the revised ANSI standard (ANSI C82.3–2002), though simplifying calibration and adjustment techniques, does not alter the measured efficacies of lamps tested vis-à-vis those reported in ANSI C82.3–1983. In addition, ANSI C82.3–2002 introduces high-frequency (*i.e.*, 25 kHz) specifications for reference test ballasts. However, as stated above, DOE is proposing to require all lamps to be tested using low-frequency ballasts (except those which can only be tested with high-frequency ballasts). Because all currently covered lamps have corresponding low-frequency ballast specifications provided, DOE concludes that this revision to the ANSI standard does not affect the efficacy measurement for the relevant lamps or introduce any additional testing burden. Therefore, DOE is proposing to replace the reference to ANSI C82.3–1983 with ANSI C82.3–2002 in 10 CFR 430.22 and 10 CFR part 430, Subpart B, Appendix R.

Furthermore, NEMA commented that IESNA LM–9–99 is the current version of IESNA LM–9–88, and that the references to LM–9–88 in 10 CFR part 430, Subpart B, Appendix R should be updated to the more recent version of the IESNA standard. (NEMA, No. 12 at p. 3) These two standards describe the procedures for assessing electrical and photometric characteristics of fluorescent lamps. The 1999 version of IESNA LM–9 adds specifications for self-absorption correction when taking light output measurements. Although this addition could raise efficacy by as much as 5 or 10 percent, the degree of this change depends on the integrating-sphere configuration and the laboratory conducting the testing. However, because some laboratories already account for self-absorption in their light output measurements, these added specifications would only affect those laboratories not presently performing this practice. If DOE adopts this revision and concludes that the update does significantly affect measured lamp efficacy, then in accordance with 42 U.S.C. 6293(e), DOE would be required to "amend the applicable energy conservation standard during the rulemaking carried out with respect to such test procedure." In this case, DOE will revise and develop new or amended efficacy standards for fluorescent lamps in its energy

conservation standards rulemaking, taking into consideration the updated standard, IESNA LM–9–1999. DOE invites comment on this issue.

Another difference between IESNA LM–9–1999 and the earlier version of that standard concerns the electrical settings used during lamp measurements. The updated IESNA standard allows measurements to be taken with the lamp operating and stabilized under one of three conditions: (1) At the specified input voltage to the reference circuit; (2) at the rated lamp power; or (3) at a specified current. In contrast, the 1988 version of the IESNA standard requires that measurements be taken at the input voltage specified by the reference circuit. Though all three measurement techniques are valid methods to test fluorescent lamps, DOE believes that testing under each of the three measurement techniques could result in significantly different efficacies. Therefore, in order to ensure consistent lamp efficacy measurements, DOE proposes to limit the testing of lamps by using one particular method, with the lamp operating and stabilized at the specified input voltage to the reference circuit. By retaining this single method of testing lamps, DOE makes certain that updating to IESNA LM–9–1999 will not change the measured lamp efficacy or cause additional testing burden. Other changes to the revised version standardize methods of testing by providing clearer guidelines. DOE believes that these updates will result in more consistent and accurate efficacy measuring and reporting. Therefore, DOE proposes to update the references to IESNA LM–9 in 10 CFR 430.22 and 10 CFR part 430, Subpart B, Appendix R, by substituting the test method in IESNA LM–9–1999, with a limitation that the testing conditions are to be that the lamp must be operating and stabilized at the specified input voltage to the reference circuit.

2. Incandescent Reflector Lamps and General Service Incandescent Lamps

NEMA commented that IESNA LM–45–1991 is out of date and has been updated to IESNA LM–45–2000. (NEMA, No. 12 at pp. 3–4) IESNA LM–45–1991, which is incorporated by reference in 10 CFR part 430, Subpart B, Appendix R, describes the procedures to be followed for measurement of the electrical and photometric characteristics of general service incandescent filament lamps. In addition, IESNA LM–20 (the referenced standard regarding the photometric testing of reflector-type lamps) incorporates IESNA LM–45–1991 by reference. DOE's review of these testing

¹⁰ These instruments directly calculate the root mean square from the measured waveform, rather than basing the calculation on the assumption that the waveform is sinusoidal.

standards indicates that revising the test procedure to incorporate IESNA LM-45-2000 by reference would update testing instrumentation specifications, test procedure information, and mechanisms for determining measurement errors.

DOE believes that substituting IESNA LM-45-2000 for the version currently incorporated would provide clarification in the test procedure, which would reduce variability without significantly affecting measured lamp efficacy. Specifically, the revised IESNA standard provides a detailed procedure for establishing lamp stabilization. The revised IESNA standard also explains the origin of measurement errors caused by the deviation in system response from the photopic luminous efficacy function ($V(\lambda)$) when determining illuminance and total luminous flux. Furthermore, the revised IESNA standard requires a tighter bound of uncertainty measurements for voltage and current. It is DOE's understanding that these modifications could reduce uncertainty and variability in efficacy measurements. DOE believes that the changes are necessary because the previous methodology incorporates measurement techniques that could result in different efficacy values for the same lamp. In addition, DOE believes that testing under an amended test procedure that incorporates the 2000 version of the IESNA standard would not be unduly burdensome to conduct. Therefore, DOE is proposing to incorporate by reference IESNA LM-45-2000 under 10 CFR 430.22 and 10 CFR part 430, Subpart B, Appendix R.

3. Medium-Based Compact Fluorescent Lamps

DOE is proposing to delete references to test procedures for medium-based compact fluorescent lamps from 10 CFR part 430, Subpart B, Appendix R, because test procedures conforming with EPACT 2005 were added by the December 2006 Final Rule. Section 323(b)(12)(A) of EPCA, as amended, requires test procedures for medium-based CFL to be based on the August 9, 2001, version of the ENERGY STAR program requirements for CFL (version 2.0). Accordingly, the December 2006 Final Rule incorporated the version 2.0 as DOE's test procedure for CFL. (10 CFR part 430, Subpart B, Appendix W) This statutory directive supersedes the testing procedures adopted by the September 1994 Interim Final Rule. Therefore, DOE proposes to delete references to testing medium-based compact fluorescent lamps from 10 CFR 430.22 and 10 CFR part 430, Subpart B, Appendix R. In addition, DOE proposes

to reference Appendix W of Subpart B instead of Appendix R of Subpart B in 10 CFR part 430 when indicating the appropriate test procedure for medium base compact fluorescent lamps.

4. General Information Standards

NEMA commented that IESNA LM-16-1993, a guide to colorimetry of light sources, has been withdrawn and is commercially unavailable. Accordingly, NEMA requested that this reference be eliminated from DOE's regulations. (NEMA, No. 12 at pp. 3-4) IESNA LM-16-1993, which is referenced in 10 CFR part 430, Subpart B, Appendix R, is not a specific test method and does not provide any detail associated with the test procedures contained in Appendix R. IESNA LM-16 provides only educational information and refers to testing standards already referenced by other incorporated ANSI, IESNA, and CIE references. Therefore, DOE is proposing to delete the reference to IESNA LM-16-1993 from Appendix R because it has been withdrawn by industry and is superfluous to DOE's test procedure. Correspondingly, DOE is proposing to delete the reference to IESNA LM-16-1993 from 10 CFR 430.22(b)(2). DOE believes that these amendments would not result in any change in the testing method or measured efficacies of fluorescent or incandescent lamps.

In its comments, NEMA urged DOE to incorporate by reference CIE Publication 13.3-1995, which is the updated version of CIE Publication 13.2-1974 (corrected reprint 1993). CIE Publication 13.2 is cited in 10 CFR 430.2, 10 CFR 430.22(b)(3), and 10 CFR part 430, Subpart B, Appendix R. CIE Publication 13.2 is referenced in the definition of "colored fluorescent lamp" (10 CFR 430.2) and in the test methods and measurements of GSFL (10 CFR 430, Subpart B, Appendix R, paragraph 4.5.1).¹¹ CIE Publication 13.2 presents the procedure for measuring and specifying color rendering properties of light sources. Relative to CIE Publication 13.2, data tables have been modified in CIE Publication 13.3 to be representative of current spectroradiometric practices. A smaller interval for the color rendering index (CRI) is required due to changes in current practices. However, the technical method for determining CRI has not changed from the 1974 edition

¹¹ CIE Publication 13.2 is also referenced in the DOE definition of "colored incandescent lamp" as developed and codified in the May 1997 Final Rule. 62 FR 29221, 29228 (May 29, 1997) However, section 321(a)(1) of EISA 2007 establishes a new definition (superseding DOE's previous definition) that references the updated CIE Publication 13.3.

of the CIE publication. DOE believes the proposed amendments to this document would not significantly impact the measurement of lamp efficacy or add additional testing burden because these changes have already been widely adopted in practice and are now standardized across laboratories. Therefore, DOE is proposing to update the relevant CFR provisions to incorporate by reference CIE Publication 13.3-1995, in place of CIE Publication 13.2-1974 (corrected reprint 1993).

In addition, DOE is also proposing in this notice to delete the reference to TLA Lighting Consultants from 10 CFR 430.22(b)(3), and instead is inserting both an e-mail address and Web site for CIE. DOE is proposing this amendment for the following reasons: (1) DOE no longer believes it is necessary to list a private company as the source of CIE documents when CIE documents can be purchased online directly from CIE; and (2) as discussed in 10 CFR 430.22(a)(2), the CIE document and all referenced standards are made publicly available through both the National Archives and Records Administration and the U.S. Department of Energy headquarters in Washington, DC.

B. High-Frequency Fluorescent Ballast Testing

As discussed in Section III.A above, DOE is proposing to incorporate by reference ANSI C78.81 and ANSI C78.901 (which replaced ANSI C78.1, ANSI C78.2, and ANSI C78.3) in 10 CFR part 430, Subpart B, Appendix R, paragraph 4.1.1. ANSI C78.81 allows several lamps to be tested on high-frequency ballasts. Philips commented that the same lamp tested on different reference ballasts may have different reported efficacies. (Philips, No. 11 at p. 3) The Philips comment raises a significant point. DOE believes that having a fluorescent lamp efficacy standard which allows manufacturers to determine compliance by using either of two different methods would introduce inconsistencies in the measured efficacies for those products. At this time, while high-frequency testing specifications are available for some lamps, they are not yet available for all of DOE's covered fluorescent lamp types. ANSI C78.81 does provide low-frequency reference ballast specifications for all of DOE's covered fluorescent lamps. Therefore, consistent with the current test procedure, DOE is proposing in this NOPR to require testing of GSFL using low-frequency reference ballasts when possible. If, as discussed in the energy conservation standards ANOPR, DOE were to extend its coverage to certain additional

fluorescent lamps for which only high-frequency reference ballast specifications are available, then DOE proposes to require that testing of those lamps would be conducted using the specified high-frequency reference ballast. By continuing to test fluorescent lamps on low-frequency ballasts when possible, DOE ensures consistent and repeatable efficacy measurements. In addition, as this proposal does not represent a divergence from the current testing practices, DOE believes that the proposed test procedure would neither increase testing burden nor alter the measured efficacy of fluorescent lamps.

DOE is aware that the fluorescent ballast market is shifting toward high-frequency (*i.e.*, electronic) ballasts. Therefore, if industry standards are amended in the future so as to provide high-frequency testing specifications for a more comprehensive list of covered lamps, DOE will consider reevaluating its test procedures. In such a case, DOE may propose allowing manufacturers the option of choosing either low-frequency reference ballast testing or high-frequency reference ballast testing. DOE notes that if it allows manufacturers to test and represent the efficacy of their lamps using a high-frequency reference ballast, DOE would need to adjust the table of fluorescent lamp efficacy requirements (which currently includes low-frequency ballasts efficacy levels) so as to also include high-frequency ballast efficacy levels, in accordance with 42 U.S.C. 6293(e). In other words, DOE would scale its efficacy requirements to reflect the performance of a lamp on a low-frequency ballast to that same lamp's performance on a high-frequency ballast. DOE invites stakeholders to comment on this issue.

C. Calculation of Fluorescent Lamp Efficacy

DOE's current test procedures for fluorescent and incandescent lamps contain an inconsistency between the definition of "lamp efficacy" and the minimum efficacy standards established by the Energy Policy Act of 1992 (Pub. L. 102-486) (EPACT 1992). Under 10 CFR part 430, Subpart B, Appendix R, paragraph 2.6, lamp efficacy for all lamps is defined as: "the ratio of measured lamp lumen output in to the measured lamp electrical power input in watts, rounded to the nearest whole number, in units of lumens per watt." Similarly, the GSFL test procedure states that lamp efficacy measurements should be rounded to the nearest lumen per watt (10 CFR 430.23(r)(2)). However, in 10 CFR 430.23(r)(3), lamp efficacy for IRL is defined as the ratio of lumens

emitted over watts consumed, rounded to the nearest tenth of a lumen per watt. DOE believes that accuracy of efficacy measurements is crucial in order to maximize energy savings under DOE regulations. DOE further notes that average lamp efficacy requirements for GSFL, as listed in EPCA, are specified to the nearest tenth of a lumen per watt. (42 U.S.C. 6295(i)(1)(A)) Therefore, DOE is proposing to revise the GSFL test procedure (10 CFR 430.23(r)(2)) and the test procedure definition of "lamp efficacy" (10 CFR part 430, Subpart B, Appendix R, paragraph 2.6), such that all efficacy measurements for lamps are rounded to the nearest tenth of a lumen per watt. This proposal is consistent with DOE's approach in the May 1997 Final Rule regarding the rounding practice required for the calculation of IRL efficacy. In the May 1997 Final Rule, DOE stated that IRL lamp efficacy should be rounded to the nearest tenth of a lumen per watt in order to retain the significant figures in the EPCA standard for IRL. (42 U.S.C. 6295(i)(1)(A)) 62 FR 29221, 29234 (May 29, 1997) This proposed revision to the efficacy rounding practice for GSFL does not alter the method of taking test measurements, but only the calculation of lamp efficacy. Therefore, DOE believes that requiring average lamp efficacy measurements of GSFL be rounded to the nearest tenth of a lumen per watt would not be unduly burdensome.

In sum, DOE believes that these amendments to the test procedure would neither be unduly burdensome to implement nor alter the measured efficacy of covered fluorescent lamps. DOE invites stakeholders to comment on this issue.

D. Measurement and Calculation of Correlated Color Temperature

DOE uses CCT as a metric to define "colored fluorescent lamp" and "colored incandescent lamp."¹² In both cases, CCT is used to determine whether a lamp that operates with a particular CCT should be classified as a colored lamp, and therefore not be subject to regulation as a covered product. The existing test procedures for fluorescent and incandescent lamps in the CFR do not provide guidance or methodologies for determining or calculating CCT. In

¹² The following is the definition of "colored fluorescent lamp" set forth in 10 CFR 430.2: "Colored fluorescent lamp means a fluorescent lamp designated and marketed as a colored lamp, and with either of the following characteristics: a CRI less than 40, as determined according to the method given in CIE Publication 13.2 (see 10 CFR 430.22), or a lamp correlated color temperature less than 2,500K or greater than 6,600K."

today's **Federal Register**, DOE is publishing an ANOPR for the energy conservation standards rulemaking on GSFL and IRL that takes into consideration CCT. In the energy conservation standards ANOPR, DOE is requesting comment on the development of separate product classes and efficacy standards for fluorescent lamps based on CCT. In order that manufacturers may all use the same reference document for determining their fluorescent lamp CCT values, DOE is proposing to incorporate by reference in this proceeding IESNA LM-9-1999, titled "IESNA Approved Method for the Electrical and Photometric Measurements of Fluorescent Lamps." IESNA LM-9-1999 provides a clear and adequate methodology for the measurement and calculation of the CCT of a fluorescent lamp. Under IESNA LM-9-1999, CCT is determined by measuring the spectral power distribution and then calculating the chromaticity coordinates which correspond to a particular CCT. DOE does not believe the adoption of this IESNA standard imposes an additional burden on fluorescent lamp manufacturers because manufacturers already calculate chromaticity coordinates to report an industry-standardized CCT for these lamps in their product catalogs and marketing literature. Therefore, DOE is proposing to include IESNA LM-9-1999 in the definition of "colored fluorescent lamp" under 10 CFR 430.2 and in 10 CFR part 430, Subpart B, Appendix R as a test method for the measurement and calculation of CCT for fluorescent lamps.

Section 321(a)(1)(B) of EISA 2007 introduces a new statutory definition for "colored incandescent lamp," stating that a colored incandescent lamp is, in part, an incandescent lamp with "a correlated color temperature less than 2,500K, or greater than 4,600K, where correlated temperature is computed according to the Journal of Optical Society of America, Vol. 58, pages 1528-1595 (1986)."¹³ As this statutory definition explicitly prescribes the method for calculation of CCT for incandescent lamps, in this NOPR, DOE proposes to incorporate this same reference into the incandescent lamp test procedure. DOE does not consider this action to be unduly burdensome, as no manufacturer is required to determine the CCT of their incandescent

¹³ This statutory definition supersedes the previous definition for "colored incandescent lamp" which DOE developed and incorporated into 10 CFR 430.2 in the May 1997 Final Rule. 62 FR 29221, 29228 (May 29, 1997)

lamps. However, if a manufacturer intends to seek an exclusion from the regulatory requirements because a particular lamp is less than 2500K or greater than 4600K, then the manufacturer would need to use the Journal of Optical Society of America, Vol. 58, pages 1528–1595 (1968)¹⁴ in order to make that determination.

E. General Service Fluorescent Lamp Basic Model

As mentioned above, in today's **Federal Register**, DOE is publishing an ANOPR for the energy conservation standards rulemaking that considers separate product classes and efficacy standards for GSFL based on CCT. In order to demonstrate compliance to that potential efficacy standard, manufacturers would have to test and report on a basic model. A "basic model" involves defining a lamp or class of lamps which do not have any differentiating electrical, physical, or functional features that affect efficacy. In the May 1997 Final Rule, DOE stated that the definition of "basic model" for GSFL includes all lamps with essentially identical light output, power input, and luminous efficacy, regardless of their CCT. 62 FR 29221, 29232 (May 29, 1997). However, given DOE's consideration in the ANOPR of establishing product classes based on CCT, in this NOPR, DOE proposes to amend the definition of "basic model" for GSFL in 10 CFR 430.2 so as to require that the lamps have similar CCTs. DOE invites comment from stakeholders on this revision to the definition of "basic model."

F. Reference Ballast Settings for Added Fluorescent Lamp Coverage

DOE is aware that the recent introduction of new 4-foot medium bipin and 2-foot U-Shaped fluorescent lamps into the lighting market has effectively expanded DOE's scope of regulation under the existing definition of "fluorescent lamp." In addition, in the energy conservation standards ANOPR published in today's **Federal Register**, DOE is considering expanding coverage of the fluorescent lamp standard to include additional 4-foot medium bipin, 2-foot U-shaped, 8-foot single pin slimline, and 8-foot recessed double contact high output lamps. Some of the recently introduced fluorescent lamps or the additional fluorescent

lamps require additional test procedure specifications (*i.e.*, reference ballast settings) because the current test procedure is not adequate for this purpose. Specifically, DOE is proposing to adopt a process for determining ballast settings for those lamps which are covered but do not yet have ANSI-approved reference ballast settings. Accordingly, in this document, DOE is proposing test procedures for these additional lamps not contained in the industry test procedures incorporated by reference in DOE's test procedure. The proposed test procedure amendments are as follows:

1. 4-Foot Medium Bipin Lamps

The current test procedure for 4-foot medium bipin fluorescent lamps does not specify reference ballast settings for lamps that are not included in ANSI C78.1–1991. DOE is aware of several 4-foot medium bipin lamps that have been introduced since 1991 and, therefore, are not covered in ANSI C78.1–1991. Therefore, DOE proposes to add reference ballast settings for these lamps. For any 4-foot medium bipin lamp not listed in ANSI C78.81–2005 (*i.e.*, the updated version DOE is proposing to adopt in this notice), the lamp should be tested using the following reference ballast settings:

T10 and T12 lamps: 236 volts, 0.430 amps, and 439 ohms.

T8 lamps: 300 volts, 0.265 amps, and 910 ohms.

DOE invites comment on these proposed reference ballast settings for 4-foot medium bipin lamps.

2. 2-Foot U-Shaped Lamps

Similarly, for 2-foot U-shaped lamps, DOE is aware of several products that have been introduced since 1991 and are not covered in ANSI 78.1–1991. Therefore, DOE is proposing to also add reference ballast settings for these lamps. For T12 and T8 lamps, DOE determines the appropriate lamp replacement that exists in the C78.901–2005 (*i.e.*, the updated version that contains U-shaped lamps and that DOE is proposing to adopt in this NOPR), and then uses the corresponding reference ballast settings for all lamps that fall into that category. For lamps not listed in ANSI C78.901–2005, these lamps should be tested using the following reference ballast settings:

T12 lamps: 236 volts, 0.430 amps, and 439 ohms.

T8 lamps: 300 volts, 0.265 amps, and 910 ohms.

DOE invites comment on these proposed reference ballast settings for 2-foot U-shaped lamps.

3. 8-Foot Slimline Lamps

In the energy conservation standards ANOPR published in today's **Federal Register**, DOE is considering expansion of coverage of GSFL to include "8-foot, single pin, instant start, slimline lamps, with a rated wattage ≥ 52 , not defined in ANSI Standard C78.3–1991." If DOE decides to adopt standards for these lamps, amendments to the existing test procedures will be required for them as well. However, since these lamps are not contained in ANSI C78.3–1991, there are no reference ballast settings available with which to test them. Therefore, DOE is proposing to develop reference ballast settings for these lamps, which may be used in the event they become "covered products" (*i.e.*, covered by standards). For any 8-foot slimline lamp not listed in the updated ANSI C78.81–2005, DOE is proposing the following reference ballast settings:

T12 lamps: 625 volts, 0.425 amps, and 1280 ohms.

T8 lamps: 625 volts, 0.260 amps, and 1960 ohms.

DOE invites comment on these proposed reference ballast settings for 8-foot slimline lamps.

4. 8-Foot High Output Lamps

Similarly, for 8-foot high output lamps, in the energy conservation standards ANOPR, DOE is considering expansion of coverage of GSFL to include "8-foot, recessed double-contact, rapid start, HO lamps, not defined in ANSI Standard C78.1–1991." If DOE decides to adopt standards for these lamps, amendments to the existing test procedures will be required for them as well. However, since these lamps are not contained in ANSI C78.1–1991, there are no reference ballast settings available with which to test them. Therefore, DOE is proposing to develop reference ballast settings for these lamps, which may be used in the event they become covered products. For any 8-foot HO lamp not listed in the updated ANSI C78.81–2005, DOE is proposing testing the lamp using the following reference ballast settings:

T12 lamps: 400 volts, 0.800 amps, and 415 ohms.

T8 lamps: 450 volts, 0.395 amps, and 595 ohms.

DOE invites comment on these proposed reference ballast settings for 8-foot HO lamps.

5. 8-Foot Very High Output Lamps

For the reasons explained in today's energy conservation standards ANOPR, DOE is not considering expansion of coverage of the energy conservation standards to 8-foot recessed double

¹⁴ DOE notes that the publication year of the referenced article in the definition of "colored incandescent lamp," as printed in section 321(a)(1)(B) of EISA, contains a typographical error. When incorporating this reference into the CFR, DOE makes the technical correction of replacing "1986" with "1968."

contact very high output (VHO) fluorescent lamps. However, if DOE decides to cover these lamps during a future energy conservation standards rulemaking, a test procedure to accommodate them would be required. Therefore, DOE reviewed the existing DOE test procedure and updated industry test procedures to determine if the current test procedures for GSFL are adequate for 8-foot VHO lamps. With regard to the specifications of the physical and electrical characteristics of these lamps, DOE notes that ANSI C78.81–2005, which DOE proposes to incorporate by reference through this document, already includes the ballast setting specifications for some VHO lamps. For other VHO lamps that are not listed in ANSI C78.81–2005, DOE is proposing reference ballast settings which could be used if these lamps become covered products. Thus, for any VHO lamp not listed in ANSI C78.81–2005, DOE proposes testing the lamp using the following reference ballast settings:

T12 lamps: 400 volts, 1.500 amps, and 215 ohms.

DOE invites comment on these proposed reference ballast settings for VHO lamps.

6. T5 Fluorescent Lamps

For the reasons explained in today's energy conservation standards ANOPR, DOE is not considering expansion of coverage of the energy conservation standards to T5 fluorescent lamps. However, if DOE decides to cover these lamps during a future energy conservation standards rulemaking, a test procedure to accommodate them would be required. Therefore, DOE reviewed the existing DOE test procedure and updated industry test procedures and determined that the current test procedures for GSFL are adequate for some T5 lamps. In addition, with regard to the specifications of the physical and electrical characteristics of T5 lamps, DOE notes that ANSI C78.81–2005, which DOE is already proposing to incorporate by reference, includes the ballast setting specifications for some T5 lamps. However, for other T5 lamps not listed in ANSI C78.81–2005, DOE is proposing reference ballast settings which could be used if these lamps become covered products. Thus, for any normal or high output T5 lamp with a nominal length of four feet that is not listed in ANSI C78.81–2005, DOE proposes testing the lamp using the following reference ballast settings:

Normal Output T5: 329 volts, 0.170 amps, and 950 ohms.

High Output T5: 235 volts, 0.460 amps, and 255 ohms.

Should DOE decide to extend coverage to and evaluate energy conservation standards for other T5 lamps that may subsequently be developed, DOE would establish reference ballast settings in the same manner as normal output and high output T5 lamps addressed above, namely, deriving the reference ballast settings from International Electrotechnical Commission (IEC) 60081.¹⁵ DOE would determine the appropriate lamp replacement that exists in the industry standard and use the corresponding reference ballast settings for all lamps that fall into that category. DOE invites comment on this issue and the proposed reference ballast settings for T5 lamps.

G. Test Procedures for Added General Service Incandescent Lamp Coverage

As stated earlier, EISA 2007 established energy conservation standards for GSIL. Currently, for the purpose of Federal Trade Commission (FTC) labeling requirements, a limited test procedure for GSIL is provided in the CFR. In this NOPR, DOE proposes to amend the existing test procedure in order to: (1) Specify the units to be tested in 10 CFR 430.24(r)(1); (2) define the "basic model" for GSIL in 10 CFR 430.2; and (3) provide a method for calculating GSIL annual energy consumption and efficacy in 10 CFR 430.23(r). Because of the similarity in technology of GSIL and IRL, DOE is proposing that the above additions to the GSIL test procedure be implemented in the same manner as the corresponding IRL test procedure. DOE invites comment on the proposed amendments to the GSIL test procedure.

H. Off Mode and Standby Mode Energy Consumption

Section 310(3) of EISA 2007 directs DOE to amend its test procedures for all covered products to incorporate a measure of off mode and standby mode energy consumption, if feasible. (42 U.S.C. 6295(gg)(2)) After careful review, DOE has preliminarily concluded that for the GSFL, IRL, and GSIL which are the subject of this rulemaking, current technologies for these products do not employ a standby mode or off mode. Therefore, DOE believes establishing a

test procedure for such features, is infeasible. Given EISA 2007's definitions of "active mode," "off mode," and "standby mode,"¹⁶ the lamp must be entirely disconnected from the main power source (*i.e.*, the lamp is switched off) in order to not provide any active mode function (*i.e.*, emit light), thereby meeting the second provision in the definition of "off mode." However, if the lamp is disconnected from the main power source, the lamp clearly does not satisfy the requirements of operating in off mode. In addition, DOE believes that all covered products that meet the definitions of "GSFL," "IRL," and "GSIL" are single-function products and do not offer any secondary user-oriented or protective functions. Therefore, DOE believes that it is not feasible to incorporate off mode or standby mode energy use into its test procedures for GSFL, IRL, and GSIL. DOE invites stakeholder comment on the issue of off mode and standby mode energy consumption for the products addressed in this rulemaking.

IV. Public Participation

DOE will make the entire record of this proposed rulemaking, including the transcript from the public meeting, available for inspection at the U.S. Department of Energy, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024, (202) 586–9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Anyone may purchase a copy of the transcript from the transcribing reporter.

A. Submission of Comments

DOE will accept comments, data, and information regarding this notice, the proceeding of the public meeting, or any aspect of the rulemaking, until no later than the date provided at the beginning of this notice. Comments, data, and information submitted to DOE's e-mail address for this rulemaking should be

¹⁶ In amending 42 U.S.C. 6295(gg)(1)(a)(i), (ii), and (iii), EISA 2007 defines "active mode," "off mode," and "standby mode" as follows: "The term 'active mode' means the condition in which an energy-using product—(I) is connected to a main power source; (II) has been activated; and (III) provides 1 or more main functions." "The term 'off mode' means the condition in which an energy-using product—(I) is connected to a main power source; and (II) is not providing any stand-by or active mode function." "The term 'standby mode' means the condition in which an energy-using product—(I) is connected to a main power source; and (II) offers 1 or more of the following user-oriented or protective functions: (aa) To facilitate the activation or deactivation of other functions (including active mode) by remote switch (including remote control), internal sensor, or timer. (bb) Continuous functions including information or status displays (including clocks) or sensor-based functions."

¹⁵ IEC 60081 is a publication of the International Electrotechnical Commission in Switzerland. This technical publication is cross-referenced by ANSI C78.81–2005 as the source for reference ballast settings of T5 lamps that are not listed in ANSI C78.81–2005. The title of IEC 60081 is *Double-capped fluorescent lamps—Performance specifications*. Available for purchase from <http://webstore.iec.ch>.

provided in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format. Stakeholders should avoid the use of special characters or any form of encryption, and wherever possible, comments should include the electronic signature of the author. Absent an electronic signature, comments submitted electronically must be followed and authenticated by submitting a signed original paper document to the address provided at the beginning of this notice. Comments, data, and information submitted to DOE via mail or hand delivery/courier should include one signed original paper copy. No telefacsimiles (faxes) will be accepted.

According to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit two copies: one copy of the document including all the information believed to be confidential, and one copy of the document with the information believed to be confidential deleted. DOE will make its own determination as to the confidential status of the information and treat it according to its determination.

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known or available from public sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) a date after which such information might no longer be considered confidential; and (7) why disclosure of the information would be contrary to the public interest.

After the public meeting and the expiration of the period for submission of written statements, DOE will begin conducting the analyses as discussed at the public meeting and reviewing the comments received.

B. Issues on Which DOE Seeks Comment

Although comments are welcome on all aspects of this rulemaking, DOE is particularly interested in receiving comments and views of interested parties concerning the following issues:

1. Test Procedure Reference Updates

DOE seeks comment on the proposed test procedure reference updates, specifically, whether these updates to ANSI, IESNA, and CIE standards would

introduce an additional testing burden or change the measurement of lamp efficacy. (See Section 0 for further detail.)

2. High-Frequency Fluorescent Ballast Testing

DOE seeks comment on whether it should limit fluorescent lamp testing to low-frequency ballasts when both low- and high-frequency reference ballast settings are available in ANSI C78.81-2005 or ANSI C78.901. (See Section 0 for further detail.)

3. Calculation of Fluorescent Lamp Efficacy

DOE seeks comment on whether fluorescent lamp efficacy should be calculated to the nearest tenth of a lumen per watt. (See Section 0 for further detail.)

4. Measurement and Calculation of Correlated Color Temperature

DOE seeks comment on the proposed incorporation by reference of the industry standard LM-9-1999 for measuring and determining CCT for fluorescent lamps. (See Section 0 for further detail.)

5. General Service Fluorescent Lamp Basic Model

DOE seeks comment on the proposed requirement that all GSFL that are considered to be the same basic model must have similar CCTs. (See Section 0 for further detail.)

6. Reference Ballast Settings for Added Fluorescent Lamp Coverage

DOE seeks comment on the proposed reference ballast settings for 4-foot medium bipin lamps, 2-foot U-shaped lamps, 8-foot single pin slimline lamps, 8-foot high output lamps, 8-foot very high output lamps, and T5 fluorescent lamps. (See Section 0 for further detail.)

7. Additions to the General Service Incandescent Lamp Test Procedure

DOE seeks comment on the proposed additions to the GSIL test procedure: (1) Specifying the units to be tested in 10 CFR 430.24(r)(1), (2) defining the "basic model" for GSIL in 10 CFR 430.2, and (3) providing a method for calculating GSIL annual energy consumption and efficacy in 10 CFR 430.23(r). (See Section 0 for further detail.)

8. Off Mode and Standby Mode Energy Consumption

DOE seeks comment on its proposal to not include test procedures off mode and standby mode energy consumption of GSFL, IRL, and GSIL. (See Section 0 for further detail.)

V. Regulatory Review

A. Executive Order 12866

Today's proposed rule has been determined to not be a "significant regulatory action" under Executive Order 12866, "Regulatory Planning and Review," 58 FR 51735 (October 4, 1993). Accordingly, this action was not subject to review under that Executive Order by the Office of Information and Regulatory Affairs of the Office of Management and Budget.

B. National Environmental Policy Act

DOE has determined that this proposed rule is covered under the Categorical Exclusion A6 found in DOE's National Environmental Policy Act regulation at Appendix A to Subpart D, 10 CFR part 1021, which applies because this rule is establishing revisions to existing test procedures that will not affect the quality or distribution of energy and will not result in any environmental impacts.¹⁷ Accordingly, neither an environmental assessment nor an environmental impact statement is required.

C. 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. 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 DOE rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel's Web site: <http://www.gc.doe.gov>.

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,

¹⁷ Categorical Exclusion A6 provides, "Rulemakings that are strictly procedural, such as rulemaking (under 48 CFR part 9) establishing procedures for technical and pricing proposals and establishing contract clauses and contracting practices for the purchase of goods and services, and rulemaking (under 10 CFR part 600) establishing application and review procedures for, and administration, audit, and closeout of, grants and cooperative agreements."

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 EPCACT 2005. 70 FR 60407. Today, DOE is publishing further technical amendments to certain energy conservation standards for lamps previously published in the **Federal Register** on May 29, 1997.

DOE has reviewed today's proposed rule under the provisions of the Regulatory Flexibility Act and the policies and procedures published on February 19, 2003. As part of this rulemaking, DOE examined the existing compliance costs already borne by manufacturers and compared them to the revised compliance costs, based on the proposed revisions to the test procedure. DOE does not find that the costs imposed by the revisions proposed in this document would result in any significant increase in testing or compliance costs. On the basis of the foregoing, DOE tentatively concludes and certifies that this proposed rule would not have a significant impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE's certification and supporting statement of factual basis will be provided to the Chief Counsel for Advocacy of the Small Business Administration pursuant to 5 U.S.C. 605(b).

D. Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501 et seq.), a person is not required to respond to a collection of information unless the collection displays a valid OMB control number. This NOPR would not impose any new information or recordkeeping requirements, since it does not change the existing manufacturer certification and reporting requirements adopted in DOE's May 29, 1997, final rule. Accordingly, no OMB clearance is required under the PRA.

E. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104-4) requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. For proposed regulatory actions likely to result in a rule that may cause expenditures by State, local, and Tribal governments, in the aggregate, or by the private sector of \$100 million or more (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish estimates of the resulting

costs, benefits, and other effects on the national economy (2 U.S.C. 1532(a), (b)). The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed "significant intergovernmental mandate." 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 proposed rule contains neither an intergovernmental mandate, nor a mandate that may result in the expenditure of \$100 million or more in any year, so these requirements do not apply.

F. Treasury and General Government Appropriations Act, 1999

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

G. 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. Agencies are required 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. DOE has examined this proposed rule and has determined that it would not preempt State law and would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. No further action is required by Executive Order 13132.

H. Executive Order 12988

With respect to the review of existing regulations and the promulgation of

new regulations, section 3(a) of Executive Order 12988, "Civil Justice Reform," 61 FR 4729 (February 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; (3) provide a clear legal standard for affected conduct rather than a general standard; and promote simplification and burden reduction. With regard to the review required by Section 3(a), 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, the proposed rule meets the relevant standards of Executive Order 12988.

I. Treasury and General Government Appropriations Act, 2001

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.

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 proposed rule under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

J. 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 OMB, a Statement of Energy Effects for any proposed significant energy action. A

“significant energy action” is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Today’s regulatory action would not have a significant adverse effect on the supply, distribution, or use of energy, and is therefore, not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

K. Executive Order 12630

Pursuant to Executive Order 12630, “Governmental Actions and Interference with Constitutionally Protected Property Rights,” 53 FR 8859 (March 15, 1988), DOE has determined that this rule would not result in any takings that might require compensation under the Fifth Amendment to the United States Constitution.

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

Under section 301 of the Department of Energy Organization Act (Pub. L. 95–91), the Department of Energy must comply with section 32 of the Federal Energy Administration Act of 1974 (Pub. L. 93–275), as amended by the Federal Energy Administration Authorization Act of 1977 (Pub. L. 95–70) 15 U.S.C. 788. Section 32 provides, in essence that, where a proposed rule authorizes or requires use of commercial standards, the notice of proposed rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Department of Justice (DOJ) and the FTC concerning the impact of the commercial or industry standards on competition.

The amendments and revisions proposed in this notice incorporate updates to certain commercial standards already codified in the CFR. The Department has evaluated these revised standards and is unable to conclude whether they fully comply with the requirements of section 32(b) of the Federal Energy Administration Act, (i.e., that they were developed in a manner

that fully provides for public participation, comment, and review). DOE will consult with the Attorney General and the Chairman of the FTC concerning the impact of these test procedures on competition, prior to prescribing a final rule.

IV. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this proposed rule.

List of Subjects in 10 CFR Part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Incorporation by reference, Intergovernmental relations, Small businesses.

Issued in Washington, DC on February 21, 2008.

Alexander A. Karsner, Assistant Secretary, Energy Efficiency and Renewable Energy.

For the reasons stated in the preamble, DOE is proposing to amend 10 CFR part 430 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. Revising paragraph (15), redesignating paragraphs (16) through (26) as paragraphs (17) through (27) and by adding a new paragraph (16), in the definition for “Basic Model,”

b. Revising the definition for “Cold temperature fluorescent lamp,”

c. Revising the definition for “Colored fluorescent lamp,”

d. Revising paragraph (3) in the definition for “Fluorescent lamp.”

The revisions and additions read as follows:

§ 430.2 Definitions.

* * * * *

Basic Model * * *

(15) With respect to general service fluorescent lamps, means lamps that have essentially identical light output and electrical characteristics—including lumens per watt, color rendering index (CRI), and correlated color temperature (CCT)—and that do not have any differing physical or functional characteristics that affect energy consumption or efficacy.

(16) With respect to general service incandescent lamps, means lamps that have essentially identical light output

and electrical characteristics—including lumens per watt—and that do not have any differing physical or functional characteristics that affect energy consumption or efficacy. * * *

* * * * *

Cold temperature fluorescent lamp means a fluorescent lamp specifically designed to start at –20 °F when used with a ballast conforming to the requirements of ANSI Standard C78.81–2005 and C78.901–2005 (see 10 CFR 430.22), and is expressly designated as a cold temperature lamp both in markings on the lamp and in marketing materials, including but not limited to catalogs, sales literature, and promotional material.

Colored fluorescent lamp means a fluorescent lamp designated and marketed as a colored lamp, and with either of the following characteristics: A CRI less than 40, as determined according to the method given in CIE Publication 13.3 (see 10 CFR 430.22), or a lamp correlated color temperature less than 2,500K or greater than 6,600K, as determined according to the method set forth in IESNA LM–9–99 (see 10 CFR 430.22).

* * * * *

Fluorescent lamp * * *

(3) Any rapid start lamp (commonly referred to as 8-foot high output lamps) with recessed double contact bases of nominal overall length of 96 inches and 0.800 nominal amperes, as defined in ANSI C78.81–2005 (see 10 CFR 430.22).

* * * * *

3. Section 430.22 is amended by revising paragraphs (b)(1), (b)(2), and (b)(3) and adding a new paragraph (b)(12) to read as follows:

§ 430.22 Reference sources.

* * * * *

(b)(1) American National Standards Institute (ANSI). The ANSI standards listed in this paragraph may be obtained from the American National Standards Institute, 25 W. 43rd Street, 4th Floor, New York, NY 10036, (212) 642–4900.

1. ANSI C78.1–1991, “for Fluorescent Lamps—Rapid-Start Types—Dimensional and Electrical Characteristics”

2. ANSI C78.3–1991, “for Fluorescent Lamps—Instant-Start and Cold-Cathode Types—Dimensional and Electrical Characteristics”

3. ANSI C78.375–1997, “for Fluorescent Lamps—Guide for Electrical Measurements”

4. ANSI C78.81–2005, “for Electric Lamps—Double-Capped Fluorescent Lamps—Dimensional and Electrical Characteristics”

5. ANSI C78.901–2005, “for Electric Lamps—Single-Based Fluorescent Lamps—Dimensional and Electrical Characteristics”

6. ANSI C82.3–2002 “for Reference Ballasts for Fluorescent Lamps”

7. ANSI C79.1–1994, “Nomenclature for Glass Bulbs—Intended for Use with Electric Lamps”

8. ANSI C78.21–1989, “Incandescent Lamps—PAR and R Shapes”

9. ANSI Standard Z21.56–1994, “Gas-Fired Pool Heaters,” section 2.9

(2) Illuminating Engineering Society of North America (IESNA). The IESNA standards listed in this paragraph may be obtained from the Illuminating Engineering Society of North America, 120 Wall Street, Floor 17, New York, NY 10005–4001, (212) 248–5000.

1. Illuminating Engineering Society LM–9–99, “IES Approved Method for the Electrical and Photometric Measurements of Fluorescent Lamps”

2. Illuminating Engineering Society of North America LM–20–1994, “IESNA Approved Method for Photometric Testing of Reflector-Type Lamps”

3. Illuminating Engineering Society of North America LM–45–00, “IES Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps”

4. Illuminating Engineering Society of North America LM–58–1994, “IESNA Guide to Spectroradiometric Measurements”

5. *Illuminating Engineering Society of North America Lighting Handbook, Reference and Application*, 8th Edition, 1993, Chapter 6, Light Sources

(3) International Commission on Illumination (CIE). The CIE standard listed in this paragraph may be obtained from the International Commission on Illumination, CIE Bureau Central, Kegelgasse 27, A–1030, Vienna, Austria; Telephone: +43 1–714 31 87 0; e-mail: ciecb@cie.co.at; Web site: <http://www.cie.co.at/cie/>.

1. International Commission on Illumination (CIE) Publication No. 13.3–1995, “Method of Measuring and Specifying Color Rendering Properties of Light Sources,” ISBN 3 900 734 57 7

* * * * *

(12) Optical Society of America (OSA). The OSA journal article listed in this paragraph may be obtained from the Optical Society of America, 2010 Massachusetts Ave., NW., Washington, DC 20036–1012, (202) 223–8130; Web site: <http://www.osa.org/>.

1. Journal of Optical Society of America, Vol. 58, pages 1528–1595 (1968).

* * * * *

4. Section 430.23 is amended by revising paragraph (r) to read as follows:

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

* * * * *

(r) *General Service Fluorescent Lamps, General Service Incandescent Lamps, and Incandescent Reflector Lamps.* (1) The estimated annual energy consumption for general service fluorescent lamps, general service incandescent lamps, and incandescent reflector lamps, expressed in kilowatt-hours per year, shall be the product of the input power in kilowatts as determined in accordance with section 4 of Appendix R to this subpart and an average annual use specified by the manufacturer, with the resulting product rounded off to the nearest kilowatt-hour per year. Manufacturers must provide a clear and accurate description of the assumptions used for the estimated annual energy consumption.

(2) The lamp efficacy for general service fluorescent lamps shall be equal to the average lumen output divided by the average lamp wattage as determined in section 4 of Appendix R of this subpart, with the resulting quotient rounded off to the nearest tenth of a lumen per watt.

(3) The lamp efficacy for general service incandescent lamps shall be equal to the average lumen output divided by the average lamp wattage as determined in section 4 of Appendix R of this subpart, with the resulting quotient rounded off to the nearest tenth of a lumen per watt.

(4) The lamp efficacy for incandescent reflector lamps shall be equal to the average lumen output divided by the average lamp wattage as determined in section 4 of Appendix R of this subpart, with the resulting quotient rounded off to the nearest tenth of a lumen per watt.

(5) The color rendering index and correlated color temperature of a general service fluorescent lamp shall be tested and determined in accordance with section 4.4 of Appendix R of this subpart and rounded off to the nearest unit.

* * * * *

5. Section 430.24 is amended by revising the first sentence of paragraph (r)(1) introductory text, is revised to read as follows:

§ 430.24 Units to be tested.

* * * * *

(r)(1) For each basic model of general service fluorescent lamp, general service incandescent lamp, and incandescent reflector lamp samples of production lamps shall be tested and the results for

all samples shall be averaged for a 12-month period. * * *

* * * * *

5. Section 430.25 is revised to read as follows:

§ 430.25 Laboratory Accreditation Program.

The testing for general service fluorescent lamps, general service incandescent lamps, and incandescent reflector lamps shall be performed in accordance with Appendix R to this subpart. The testing for medium base compact fluorescent lamps shall be performed in accordance with Appendix W of this subpart. This testing shall be conducted by test laboratories accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) or by an accrediting organization recognized by NVLAP. NVLAP is a program of the National Institute of Standards and Technology, U.S. Department of Commerce. NVLAP standards for accreditation of laboratories that test for compliance with standards for lamp efficacy and CRI are set forth in 15 CFR part 285 as supplemented by *NVLAP Handbook 150–01*, “Energy Efficient Lighting Products, Lamps and Luminaires.” A manufacturer’s or importer’s own laboratory, if accredited, may conduct the applicable testing.

6. Appendix R to Subpart B of Part 430 is amended by:

- a. Revising the title of Appendix R;
- b. Revising sections 1 and 2.1;
- c. Removing in section 2.6 “whole number” and add in its place “tenth decimal place”;
- d. Removing in section 2.9, “and in IESNA LM–66 for medium base compact fluorescent lamps.”;
- e. Removing section 3.4;
- f. Revising sections 4.1.1;
- g. Redesignating section 4.1.2 as 4.1.3;
- h. Adding new sections 4.1.2, 4.1.2.1, 4.1.2.2, 4.1.2.3, 4.1.2.4, 4.1.2.5, and 4.1.2.6;
- i. Revising section 4.2.2;
- j. Removing section 4.4; and
- k. Redesignating section 4.5 as 4.4 and revise the title for redesignated section 4.4 and text for redesignated sections 4.4.1 and 4.4.2.

The revisions and additions read as follows:

Appendix R to Subpart B of Part 430—Uniform Test Method for Measuring Average Lamp Efficacy (LE), Color Rendering Index (CRI), and Correlated Color Temperature (CCT) of Electric Lamps

1. *Scope:* This appendix applies to the measurement of lamp lumens, electrical characteristics, CRI, and CCT for general

service fluorescent lamps, and to the measurement of lamp lumens, electrical characteristics for general service incandescent lamps and incandescent reflector lamps.

2. Definitions

2.1 To the extent that definitions in the referenced IESNA and CIE standards do not conflict with the DOE definitions, the definitions specified in § 1.2 of IESNA LM-9, § 3.0 of IESNA LM-20, § 1.2 and the Glossary of IESNA LM-45, § 2 of IESNA LM-58, and Appendix 1 of CIE Publication No. 13.3 shall be included.

* * * * *

4. Test Methods and Measurements

* * * * *

4.1 General Service Fluorescent Lamps

4.1.1 The measurement procedure shall be as described in IESNA LM-9, except that lamps shall be operated at the appropriate voltage and current conditions as described in ANSI C78.375 and in ANSI C78.81 or C78.901, and lamps shall be operated using the appropriate reference ballast at input voltage specified by the reference circuit as described in ANSI C82.3 (see 10 CFR 430.22). If, for a lamp, both low-frequency and high-frequency reference ballast settings are included in the ANSI standard, the lamp shall be operated using the low-frequency reference ballast.

4.1.2 For lamps not listed in ANSI C78.81 nor in C78.901, the lamp shall be operated using the following reference ballast settings:

4.1.2.1 4-Foot medium bi-pin lamps shall be operated using the following reference ballast settings: T10 or T12 lamps are to use 236 volts, 0.43 amps, and 439 ohms; T8 lamps are to use 300 volts, 0.265 amps, and 910 ohms.

4.1.2.2 2-Foot U-shaped lamps shall be operated using the following reference ballast settings: T12 lamps are to use 236 volts, 0.430 amps, and 439 ohms; T8 lamps are to use 300 volts, 0.265 amps, and 910 ohms.

4.1.2.3 8-Foot high output lamps shall be operated using the following reference ballast settings: T12 lamps are to use 400 volts, 0.800 amps, and 415 ohms; T8 lamps are to use 450 volts, 0.395 amps, and 595 ohms.

4.1.2.4 8-Foot slimline lamps shall be operated using the following reference ballast settings: T12 lamps are to use 625 volts, 0.425 amps, and 1280 ohms; T8 lamps are to use 625 volts, 0.260 amps, and 1960 ohms.

4.1.2.5 8-Foot very high output lamps shall be operated using the following reference ballast settings: T12 lamps are to use 400 volts, 1.500 amps, and 215 ohms.

4.1.2.6 Nominal 4-Foot T5 lamps shall be operated using the following reference ballast settings: Normal output lamps are to use 329 volts, 0.170 amps, and 950 ohms; high output lamps are to use 235 volts, 0.460 amps, and 255 ohms.

4.1.3 Lamp lumen output (lumens) and lamp electrical power input (watts), at the reference condition, shall be measured and recorded. Lamp efficacy shall be determined by computing the ratio of the measured lamp lumen output and lamp electrical power input at equilibrium for the reference condition.

4.2 General Service Incandescent Lamps

* * * * *

4.2.2 The test procedure shall conform with sections 5 and 9 of IESNA LM-45 and the lumen output of the lamp shall be determined in accordance with section 9 of IESNA LM-45. Lamp electrical power input in watts shall be measured and recorded. Lamp efficacy shall be determined by computing the ratio of the measured lamp lumen output and lamp electrical power input at equilibrium for the reference condition. The test report shall conform to § 11 of IESNA LM-45 (see 10 CFR 430.22).

* * * * *

4.4 Determination of Color Rendering Index and Correlated Color Temperature

4.4.1 The CRI shall be determined in accordance with the method specified in CIE Publication 13.3 for general service fluorescent lamps. The CCT shall be determined in accordance with the method specified in IESNA LM-9 for general service fluorescent lamps. The CCT shall be determined in accordance with the Journal of Optical Society of America, Vol. 58, pages 1528-1595 (1968) for incandescent lamps. The required spectroradiometric measurement and characterization shall be conducted in accordance with the methods set forth in IESNA LM-58 (see 10 CFR 430.22).

4.4.2 The test report shall include a description of the test conditions, equipment, measured lamps, spectroradiometric measurement results, and CRI and CCT determinations.

[FR Doc. E8-4035 Filed 3-12-08; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0273; Directorate Identifier 2007-NM-369-AD]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-400, 747-400D, and 747-400F Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede an existing airworthiness directive (AD) that applies to all Boeing Model 747-400, 747-400D, and 747-400F series airplanes. The existing AD currently requires reviewing airplane maintenance records, doing repetitive inspections for cracking of the yaw damper actuator portion of the upper and lower rudder power control

modules (PCMs), replacing the PCMs if necessary, and reporting all airplane maintenance records review and inspection results to the manufacturer. This proposed AD would limit the applicability, reduce the initial inspection threshold and repetitive interval, remove the reporting requirement, and require installation of a secondary retention device for the yaw damper modulating piston. Installation of the secondary retention device would terminate the repetitive inspection requirements. This proposed AD results from additional reports of failure or cracking of the PCM manifold in the area of the yaw damper cavity endcap at intervals well below the initial inspection threshold of the existing AD. We are proposing this AD to prevent an uncommanded left rudder hardover in the event of cracking in the yaw damper actuator portion of the upper or lower rudder PCMs, and subsequent failure of the PCM manifold, which could result in increased pilot workload, and possible runway departure upon landing.

DATES: We must receive comments on this proposed AD by April 14, 2008.

ADDRESSES: You may send comments by any of the following methods:

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

- *Fax*: 202-493-2251.

- *Mail*: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

- *Hand Delivery*: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.