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 430.23 of subpart B is amended by revising paragraph (i)(3) to read as follows:

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

* * * * *

(i) * * *

(3) The standby power for microwave ovens shall be determined according to 3.2.4 of appendix I to this subpart. The standby power shall be rounded off to the nearest 0.1 watt.

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3. Section 430.32 of subpart C is amended by revising paragraph (j) to read as follows:

§ 430.32 Energy and water conservation standards and effective dates.

* * * * *

(j) *Cooking Products.* (1) Gas cooking products with an electrical supply cord shall not be equipped with a constant burning pilot light. This standard is effective on January 1, 1990.

(2) Gas cooking products without an electrical supply cord shall not be equipped with a constant burning pilot light. This standard is effective on [DATE 3 YEARS AFTER FINAL RULE **Federal Register** PUBLICATION].

(3) Microwave ovens shall have an average standby power not more than 1.0 watt. This standard is effective on [DATE 3 YEARS AFTER FINAL RULE **Federal Register** PUBLICATION].

* * * * *

4. Section 430.62(a)(4) of subpart F is amended by redesignating paragraphs (a)(4)(xi) through (xvii) as (a)(4)(xii) through (xviii) respectively, and by adding new paragraph (a)(4)(xi) to read as follows:

§ 430.62 Submission of data.

(a) * * *

(4) * * *

(xi) Microwave ovens, the average standby power in watts.

* * * * *

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

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

Authority: 42 U.S.C. 6291–6317.

6. Section 431.156 of subpart I is revised to read as follows:

§ 431.156 Energy and water conservation standards and effective dates.

Each commercial clothes washer manufactured on or after [DATE 3 YEARS AFTER FINAL RULE **Federal Register** PUBLICATION], shall have a modified energy factor no less than and a water factor no greater than:

Product class	Modified energy factor (cu. ft./kWh/cycle)	Water factor (gal./cu. ft./cycle)
i. Top-Loading	1.76	8.3
ii. Front-Loading	2.00	5.5

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DEPARTMENT OF ENERGY

10 CFR Part 430

[Docket No. EERE–2008–BT–TP–0011]

RIN: 1904—AB78

Energy Conservation Program for Consumer Products: Test Procedure for Microwave Ovens

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

ACTION: Notice of proposed rulemaking and public meeting.

SUMMARY: The U.S. Department of Energy (DOE) proposes to amend its test procedures for microwave ovens under the Energy Policy and Conservation Act to provide for the measurement of standby mode and off mode power use by microwave ovens. The proposed amendments would incorporate into the DOE test procedure provisions from the International Electrotechnical Commission's Standard 62301, *Household electrical appliances—Measurement of standby power*, First Edition 2005–06, as well as language to clarify application of these provisions for measuring standby mode and off mode power in microwave ovens. The proposed amendments would also correct a technical error in the calculation of microwave test cooking energy output. DOE will hold a public meeting to discuss and receive comments on the issues presented in this notice.

DATES: DOE will accept comments, data, and information regarding the notice of proposed rulemaking (NOPR) before and after the public meeting, but no later than December 31, 2008. For details, see section V, ''Public Participation'', of this NOPR.

DOE will hold a public meeting on Friday, November 14, 2008, from 9 a.m. to 4 p.m., in Washington, DC. DOE must receive requests to speak at the public meeting before 4 p.m., Friday, October 31, 2008. DOE must receive a signed original and an electronic copy of statements to be given at the public meeting before 4 p.m., Friday, November 7, 2008.

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

Any comments submitted must identify the NOPR on Test Procedures for Microwave Ovens, and provide the docket number EERE–2008–BT–TP–0011 and/or regulatory information number (RIN) 1904–AB78. Comments may be submitted using any of the following methods:

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

2. *E-mail: MicroOven–2008–TP–0011@ee.doe.gov.* Include docket number EERE–2008–BT–TP–0011 and/or RIN 1904–AB78 in the subject line of the message.

3. *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 original paper copy.

4. *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 original paper copy.

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

Docket: For access to the docket to read background documents or comments received, visit the U.S. Department of Energy, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC, 20024, (202) 586–2945, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please call Ms. Brenda Edwards at the above telephone number for additional information about visiting the Resource Room. Please note: DOE's Freedom of Information Reading Room no longer houses rulemaking materials.

FOR FURTHER INFORMATION CONTACT: Mr. Stephen Witkowski, U.S. Department of Energy, Energy Efficiency and Renewable Energy, Building Technologies Program, EE–2J, 1000 Independence Avenue, SW., Washington, DC 20585–0121. Tel.: (202) 586–7463. E-mail: *Stephen.Witkowski@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 20585–0121. Tel.: (202) 586–9507. E-mail: *Francine.Pinto@hq.doe.gov* or *Eric.Stas@hq.doe.gov*.

SUPPLEMENTARY INFORMATION:

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I. Background and Legal Authority

Title III of the Energy Policy and Conservation Act (42 U.S.C. 6291 *et seq.*; EPCA or the Act) sets forth a variety of provisions designed to improve energy efficiency. Part A of Title III (42 U.S.C. 6291–6309) establishes the ''Energy Conservation Program for Consumer Products Other Than Automobiles'' for consumer products, including microwave ovens, the subject of today's notice. (42 U.S.C. 6291(1)–(2) and 6292(a)(10))

Under the Act, this program consists essentially of three parts: testing, labeling, and establishing Federal energy conservation standards. The testing requirements consist of test procedures that manufacturers of covered products must use to certify to DOE that their products comply with energy conservation standards adopted under EPCA and for representing the efficiency of their products, and that DOE must use to determine whether the products comply with EPCA standards. Section 323 of EPCA (42 U.S.C. 6293) sets forth criteria and procedures for DOE's adoption and amendment of such test procedures. It states, for example, 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, * * * 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, if DOE determines that a test procedure amendment is warranted, it must publish proposed test procedures and offer the public an opportunity to present oral and written comments on them, with a comment period no less than 60 or more than 270 days. (42 U.S.C. 6293(b)(2)) Finally, in any rulemaking to amend a test procedure, DOE must determine ''to what extent, if any, the proposed test procedure would alter the measured energy efficiency * * * of any covered product as determined under the existing test procedure.'' (42 U.S.C. 6293(e)(1)) If DOE determines that the amended test procedure would alter the measured efficiency of a covered product, DOE must amend the applicable energy conservation standard accordingly. (42 U.S.C. 6293(e)(2))

DOE's test procedure for microwave ovens appears at appendix I to subpart B of Title 10 of the Code of Federal Regulations (CFR). That test procedure, the only one DOE has promulgated for microwave ovens, was part of an October 3, 1997, final rule that also revised the test procedures for other cooking products to measure their efficiency and energy use more accurately. 62 FR 51976. The microwave oven test procedure incorporates portions of the International Electrotechnical Commission (IEC) Standard 705–1998 and Amendment 2–1993, *Methods for Measuring the Performance of Microwave Ovens for Households and Similar Purposes*, and measures microwave oven cooking efficiency, but does not address energy use in the standby or off modes. *Id.*

As part of DOE's current rulemaking concerning energy conservation standards for commercial clothes washers and residential cooking products, including microwave ovens (hereafter referred to as the appliance standards rulemaking), DOE held a public meeting on April 27, 2006, to present its Framework Document for that rulemaking [1] and to receive comments from stakeholders. 71 FR 15059 (March 27, 2006). Participants at the April 2006 public meeting included energy and environmental groups, as well as appliance manufacturers and trade groups. In the Framework Document, DOE stated that it did not

[1] A copy of the Framework Document, ''Rulemaking Framework for Commercial Clothes Washers and Residential Dishwashers, Dehumidifiers, and Cooking Products,'' can be found on DOE's website at *http://www.eere.energy.gov/buildings/appliance_standards/pdfs/home_appl_framework_31506.pdf* . This rulemaking originally included residential dishwashers and dehumidifiers, but they are no longer part of the rulemaking, because Congress subsequently set prescriptive standards for those products.

intend to amend the cooking products test procedure, which includes testing procedures for microwave ovens. (Framework Document, No. 4.3 at p. 4) [2]

The American Council for an Energy-Efficient Economy (ACEEE) commented that the use of standby power needs to be considered for all cooking products. (ACEEE, Public Meeting Transcript, No. 5 at p. 91) [3] The Association of Home Appliance Manufacturers (AHAM) recognized that standby power consumption is essentially already included in the test procedure for ovens and cooktops; however, for microwave ovens, a test procedure revision to include standby power would be required. (AHAM, Public Meeting Transcript, No. 5 at p. 92)

AHAM provided test data on microwave standby power for a sample of 21 microwave ovens available on the U.S. market. For the AHAM submission, standby power was tested in accordance with IEC Standard 62301, *Household electrical appliances—Measurement of standby power,* First Edition 2005–06 (IEC Standard 62301). DOE supplemented the data provided by AHAM by purchasing a representative sample of 32 microwave ovens and measuring the standby power consumption, also according to IEC Standard 62301. Both sets of data showed a wide range of standby power use. Based on an average annual useful cooking energy output of 79.8 kilowatt-hours (kWh) (according to the DOE test procedure) and a baseline microwave oven cooking efficiency of 55.7 percent, each watt of standby power represents an additional 8.76 kWh per year, or 6 percent of the annual cooking energy consumption. 72 FR 64432, 64441 (Nov. 15, 2007).

In the November 15, 2007, advance notice of proposed rulemaking (ANOPR) (hereafter referred to as the November 2007 ANOPR) regarding energy conservation standards for kitchen ranges and ovens and commercial clothes washers, DOE concluded that energy consumption by microwave ovens in the standby mode represents a significant portion of microwave ovens' energy use, and that a standard regulating such energy consumption would likely have significant energy savings. 72 FR 64432, 64441–42. DOE further stated that to include standby power in an efficiency standard for microwave ovens', it needed to modify its test procedure for this product. *Id.*

On December 13, 2007, DOE held a public meeting to receive and discuss comments on the November 2007 ANOPR (hereafter referred to as the December 2007 public meeting). At the December 2007 public meeting, DOE presented for discussion the possibility that test standard IEC Standard 62301 could be incorporated by reference into DOE's microwave oven test procedure to measure standby power. DOE also discussed clarifications to the IEC Standard 62301 test conditions at the December 2007 public meeting, including a requirement that if the measured power is not stable, the standby mode power test would be run for a period of 12 hours, with an initial clock setting of 12 a.m. DOE stated that this would permit more accurate measurement of average standby power consumption. DOE sought comment on these points from stakeholders. As discussed below, several stakeholders provided comments.

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA 2007; Pub. L. 110–140) was enacted. The EISA 2007 amendments to EPCA (section 310) require DOE to amend the test procedures for covered products to address standby mode and off mode energy consumption. The EISA 2007 amendments direct DOE to amend the test procedures to integrate such energy consumption into the energy descriptor for that product. If that is technically infeasible, DOE must instead prescribe a separate standby mode and off mode energy use test procedure if technically feasible. (42 U.S.C. 6295(gg)(2)(A)) Any such amendment must consider the most current versions of IEC Standards 62301 and 62087. *Id.* For microwave ovens, DOE must prescribe any such amendment by March 31, 2011. (42 U.S.C. 6295(gg)(2)(B)(vi))

The amended test procedure proposed in today's notice is expected to be used in future microwave oven energy conservation standards that are the subject of a concurrent rulemaking. The National Appliance Energy Conservation Act of 1987 (NAECA; Pub. L. 100–12), which amended EPCA, established prescriptive standards for cooking products, although no standards were established for microwave ovens. The NAECA amendments also required DOE to conduct two cycles of rulemakings to determine whether to revise the standard. DOE undertook the first cycle of these rulemakings and issued a final rule on September 8, 1998 (63 FR 48038), which found that no standards were justified for electric cooking products, including microwave ovens. DOE is currently in the second cycle of rulemakings required by the NAECA amendments to EPCA. (42 U.S.C. 6295(h)(2))

The EISA 2007 amendments to EPCA also direct DOE to incorporate standby and off mode energy use into any final rule establishing or revising a standard for a covered product adopted after July 1, 2010. (42 U.S.C. 6295(gg)(3)) Although DOE anticipates publishing the final rule revising energy conservation standards for microwave ovens by March 31, 2009, and is, thus, not required under EPCA to include standby and off mode power in amended standards, DOE intends to propose microwave oven standards addressing standby and off mode power for the reasons discussed above.

II. Summary of the Proposed Rule

In today's notice of proposed rulemaking (NOPR), DOE proposes amending its test procedures for microwave ovens to: (1) provide a foundation for DOE to develop and implement energy conservation standards that address use of standby mode and off mode power by this product; and (2) address the statutory requirement to expand test procedures to incorporate a measure of standby mode and off mode power consumption. The following section summarizes these proposed changes.

In this NOPR, DOE proposes to incorporate by reference into the microwave oven test procedure specific clauses from IEC Standard 62301 regarding test conditions and testing procedures for measuring the average standby mode and average off mode power consumption. DOE also proposes to incorporate into the microwave oven test procedure the definitions of ''active mode,'' ''standby mode,'' and ''off mode'' that are set forth in the EISA 2007 amendments to EPCA. (42 U.S.C. 6295(gg)(1)(A)) DOE is further proposing language that would clarify the application of clauses from IEC Standard 62301 for measuring standby mode and off mode power. Specifically, DOE is proposing to define the test duration for cases in which the measured power is not stable (*i.e.*, varies over a cycle), recognizing that the power consumption of microwave oven

[2] A notation in this form provides a reference for information that is in the docket of DOE's rulemaking to develop standards for appliance products (Docket No. EE–2006–STD–0127), maintained in the Resource Room of the Building Technologies Program. This notation indicates that the statement preceding the reference was made in DOE's Framework Document, which is document number 4.3 in the docket, and appears at page 4 of that document.

[3] This notation identifies an oral comment (1) made by American Council for an Energy-Efficient Economy (ACEEE) during the April 27, 2006, Framework public meeting in the standards rulemaking, (2) recorded in document number 5, which is the public meeting transcript that is filed in the docket of that rulemaking, and (3) which appears on page 91 of document number 5.

displays can vary based on the clock time being displayed. Finally, DOE is proposing a technical correction to the equation for calculating the microwave oven test cooking energy output which, as currently stated in the test procedure, produces a value with incorrect units.

The EISA 2007 amendments to EPCA direct DOE to amend the microwave oven test procedure to integrate energy consumption in standby mode and off mode into the overall energy descriptor. (42 U.S.C. 6295(gg)(2)(A)) If that is technically infeasible, DOE must instead prescribe a separate standby mode and off mode energy use test procedure, if technically feasible. *Id.* DOE believes that it is not technically feasible to integrate standby mode and off mode power consumption into the existing microwave oven efficiency metric for the reasons outlined in section III.C. Therefore, DOE is proposing in today's notice to provide separate descriptors for standby mode and off mode power for microwave ovens.

As noted above, EPCA requires that DOE determine whether a proposed test procedure amendment would alter the measured efficiency of a product, and thereby require adjustment of existing standards. (42 U.S.C. 6293(e)) Since there are no Federal energy conservation standards for microwave ovens (including energy use in the standby and off modes), such requirement does not apply to this rulemaking.

Finally, DOE recognizes that the EISA 2007 amendments to EPCA also require the test procedure for ''kitchen ranges and ovens'' (*i.e.*, conventional cooking products) be amended by March 31, 2011, to include standby mode and off mode energy consumption. (42 U.S.C. 6295(gg)(2)(B)(vi)) However, DOE is not proposing to amend the test procedures at this time for any other class of kitchen ranges and ovens (*i.e.*, conventional cooking products) as part of this rulemaking. DOE does not have standby mode or off mode power data for conventional cooking products to enable it to determine what changes would be required in the test procedures for those products. DOE intends to conduct a subsequent, separate rulemaking to amend the test procedures for these other classes of kitchen ranges and ovens, for which a final rule would be published by March 2011.

III. Discussion

A. Products Covered by This Test Procedure Rulemaking

The purpose of this proposal is to amend the test procedures for kitchen ranges and ovens to include test procedures for the measurement of standby mode and off mode power use for microwave ovens. DOE defines ''microwave oven'' as ''a class of kitchen ranges and ovens which is a household cooking appliance consisting of a compartment designed to cook or heat food by means of microwave energy.'' 10 CFR 430.2 The proposed amendments cover all microwave ovens for which the primary source of heating energy is electromagnetic (microwave) energy, including microwave ovens with or without thermal elements designed for surface browning of food. The proposal does not address combination ovens (*i.e.*, ovens consisting of a single compartment in which microwave energy and one or more other technologies, such as thermal or halogen cooking elements or convection systems, contribute to cooking the food). The proposal also does not cover the type of cooking appliance classified by DOE regulations as a microwave/conventional range, which has separate compartments or components consisting of a microwave oven, a conventional oven, and a conventional cooking top. *Id.* DOE requested data on the efficiency characteristics of combination ovens in the November 2007 ANOPR, but did not receive any information. If this information is made available at a later date, DOE may include these products in future proceedings.

DOE plans to address only the microwave oven test procedure at this time, for two reasons. First, DOE does not have standby mode or off mode power data for conventional cooking products to enable it to determine what changes would be required in the test procedures for those products. Second, DOE intends to determine whether a standby power standard level for microwave ovens is technologically feasible and economically justified in the appliance standards rulemaking. If so, the test procedure must be amended to include standby power well in advance of the March 31, 2011, deadline specified by EISA 2007. DOE will conduct a subsequent separate rulemaking to amend the conventional cooking products test procedure in order to meet the March 31, 2011, deadline specified by EISA 2007.

B. Effective Date for the Test Procedure

As indicated above, EPCA requires that the microwave oven test procedure be amended to incorporate measurement of standby mode and off mode power by March 31, 2011. To the extent possible, when conducting a rulemaking to amend its test procedures, DOE strives to finalize an amended test procedure before issuing a NOPR for energy conservation standards for that product. In this instance, DOE is accelerating the schedule for amending its microwave oven test procedure to allow the amended test procedure to be used in the concurrent appliance standards rulemaking, which would address standby mode and off mode power standards for microwave ovens. DOE expects to publish the microwave oven test procedure final rule before publishing a final rule in the appliance standards rulemaking. The effective date of the modified microwave oven test procedure would be three years after the test procedure final rule is published, which is expected to be before the effective date of the appliance standards rulemaking.

C. Measures of Energy Consumption

Although there are no current energy conservation standards for microwave ovens, the DOE microwave oven test procedure provides for the calculation of several measures of energy consumption, including cooking efficiency, energy factor (EF), and annual energy consumption. Historically, DOE's rulemaking analyses have used EF as the energy conservation metric for microwave ovens.[4] (10 CFR 430.23(i)(4))

Section 325(gg)(2)(A) of EPCA directs that the ''[t]est procedures for all covered products shall be amended pursuant to section 323 to include standby mode and off mode energy consumption, taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission, with such energy consumption integrated into the overall energy efficiency, energy consumption, or other energy descriptor for each covered product, unless the Secretary determines that—(i) the current test procedures for a covered product already fully account for and incorporate the standby mode and off mode energy consumption of the covered product; or (ii) such an integrated test procedure is technically infeasible for a particular covered product, in which case the Secretary shall prescribe a separate standby mode and off mode energy use test procedure for the covered product, if technically feasible.'' (42 U.S.C. 6295(gg)(2)(A)) DOE's microwave oven test procedure does not currently account for standby

[4] According to the DOE test procedure, microwave oven EF is defined as the ratio of (Annual Useful Cooking Energy Output / Annual Total Energy Consumption) (10 CFR 430, subpart B, appendix I), which is equivalent to microwave cooking efficiency (Test Energy Output / Test Energy Consumption) (10 CFR 430.23 (i)(2)).

mode and off mode energy consumption. Therefore, DOE evaluated the overall energy efficiency descriptor—EF—to determine whether it could be modified to include standby mode and off mode energy consumption.

The current test procedure measures the amount of energy required to raise the temperature of 1 kilogram of water by 10 degrees Celsius under controlled conditions. The ratio of usable output power over input power describes the EF, which is also a measure of the cooking efficiency. As discussed above, DOE sampled 32 microwave ovens, and AHAM independently tested 21 additional units, for a total of 53 microwave ovens. The data from cooking tests on these units show a cooking efficiency range from 55 percent to 62 percent. Reverse engineering conducted by DOE as part of the appliance standards rulemaking attempted to identify design options associated with this variation in cooking efficiency. Although design options among various microwave ovens were found to be highly standardized, DOE was unable to correlate specific design options or other features such as cavity size or output power with cooking efficiency.

DOE also observed significant variability in the cooking efficiency measurements obtained using the DOE microwave oven test procedure for the 53 units tested by DOE and AHAM. The data show test-to-test variability of several EF percentage points for a given microwave oven (*i.e.*, where a given combination of design options could be assigned to a number of trial standard levels (TSLs), depending upon the test results). DOE was also unable to ascertain why similarly designed, equipped, and constructed microwave ovens showed varying EFs and, hence, annual energy consumption. DOE further notes that manufacturers stated during interviews that the water used in the test procedure is not representative of an actual food load. One manufacturer stated, for example, that this could result in different microwave ovens being rated at the same energy efficiency even though true cooking performance is different. DOE believes that it is infeasible to specify a food load in the test procedure at this time, because it will require significant revisions and comments from stakeholders to understand what a representative food load is and how to ensure consistency in food properties from test to test.

DOE explored whether it would be technically feasible to combine the energy efficiency during the cooking cycle (per-use) with standby mode and off mode energy use (over time) to form a single metric, as required by EISA 2007. (42 U.S.C. 6295(gg)(2)(A)) The existing measure of microwave overall energy efficiency measures the efficiency of heating a sample of water over a period of seconds. In contrast, standby mode and off mode energy consumption is a measure of the amount of energy used over a period of multiple hours while not performing the function of heating a load. DOE finds that an overall energy efficiency that combines the two values is representative of neither the energy efficiency of the microwave oven for a very short period of use (as is the case with the EF) nor the efficiency of the microwave oven over an extended period of time.

DOE notes that certain test procedures do combine a measure of cycle efficiency and standby energy use to derive an overall energy efficiency measure (*e.g.*, gas kitchen ranges and ovens incorporate pilot gas consumption in EF, electric ovens include clock power in EF, and gas dryers include pilot gas consumption in EF). However, DOE believes that the combined measure of energy efficiency is a meaningful measure when the difference in energy use between the primary function of those products and the standby power is so large that the standby power has little impact on the overall measure of energy efficiency, or the combined efficiency is based on energy use of the primary energy function and standby power over the same period (*e.g.*, annual or seasonal). In the case of microwave ovens, the energy consumption associated with standby mode is a significant fraction of the overall energy use. DOE notes, for example, that depending on the cooking efficiency and standby power, the rank ordering of two microwave ovens based on EF alone could reverse if standby power were factored in, depending on the values of cooking energy use and standby power.[5] Therefore, given the similar magnitudes of microwave oven annual energy consumption associated with these two disparate and largely incompatible metrics that are measured over very different time periods, DOE questioned whether it would be technically feasible to incorporate EF and standby power into a combined energy efficiency metric that produces a meaningful result.

To explore standby mode and off mode power, DOE tested 32 sample units using the current IEC Standard 62301 standby test procedure and recorded a standby power range of about 1.2 W to 5.8 W (with less than 0.5 percent test-to-test deviation). DOE observed no off mode power consumption for the microwave ovens in its test sample, and DOE's research suggests that no other microwave ovens available in the United States consume energy in an off mode.[6] Thus, DOE focused its investigations on standby mode. Data suggested correlations between specific features and standby power, thereby providing the basis for a cost-efficiency curve. However, for the reasons stated above about combining a per-cycle efficiency with standby power over a long period of time, as well as due to the observed test variability in the cooking efficiency results, DOE is concerned that an overall measure of cooking efficiency that combines cooking and standby energy cannot produce test results that measure energy efficiency or energy use of microwave ovens in a reasonable and repeatable manner. An ''average'' microwave runs 8,689 hours in standby mode per year. Based on the standby power range measured by DOE and AHAM, standby power consumption represents a relatively large component of total annual energy consumption. At the efficiency baseline from the analysis conducted for the previous cooking products rulemaking, as discussed in the 1996 *Technical Support Document for Residential Cooking Products,* (which was also observed in the test sample), the observed range of annual energy consumption due to cooking (14.2 kWh) is equivalent to approximately 2 W of standby power.

DOE also explored whether the existing test procedure's measure of

[5] For example, two units among the microwave ovens tested by AHAM, each with 1000 W of input power, will be designated Unit A and Unit B for the purposes of this illustration. The EF of Unit A was measured by AHAM according to the current DOE test procedure as 55.7 percent, while the EF of Unit B was measured as 57.3 percent. The standby power of Unit A, however, was measured as 1.7 W, compared to the 4.4 W of standby power for Unit B. If a combined EF (''CEF'') were to be calculated by adding the annual standby energy use to the annual cooking energy consumption, this CEF for Unit A would be 50.5 percent, while the CEF for Unit B would be 45.0 percent, thereby reversing the rankings of the two microwave ovens according to their energy descriptor.

[6] A microwave oven is considered to be in ''off mode'' if it is plugged in to a main power source, is not being used for an active function such as cooking or defrosting, and is consuming power for features other than a display, cooking sensor, controls (including a remote control), or sensors required to reactivate it from a low power state. For example, a microwave oven with mechanical controls and no display or cooking sensor that consumed power for components such as a power supply when the unit was not activated would be considered to be in off mode. Note that DOE believes there are no longer any such microwave ovens with mechanical controls on the market, and, in fact, is not aware of any microwave ovens currently available that can operate in off mode.

annual energy consumption could be modified to be a combined energy efficiency descriptor for microwave ovens, despite the fact that EF has historically been used in energy conservation rulemakings as the energy efficiency descriptor. For the reasons articulated here, DOE has tentatively concluded that neither approach meets the statutory standard for a combined metric.

In light of the above, DOE believes that, although it may be mathematically possible to combine energy consumption into a single metric encompassing active (cooking), standby, and off modes, it is not technically feasible to do so at this time, because of the high variability in the current cooking efficiency measurement from which the active mode EF and annual energy consumption are derived and because of the significant contribution of standby power to overall microwave oven energy use. Given DOE's recent research, there is concern that cooking efficiency results for microwave ovens would not be meaningful, so incorporation of such results in a combined metric similarly would not be expected to be meaningful. Inherent in a determination of technical feasibility under EISA 2007 for a combined metric for active, standby, and off mode energy consumption is an expectation that the results would be meaningful. Accordingly, for the purposes of this notice, DOE is not proposing to incorporate standby and off modes with active mode into a combined metric, but is instead proposing a separate metric to measure standby power, as provided for by EISA 2007 in cases where it is technically infeasible to incorporate standby and off modes into a combined energy conservation metric.[7] (42 U.S.C. 6295(gg)(3)(B))

Although it may not be technically feasible to develop a combined metric for microwave ovens today, it may be possible to do so in the future, provided that each is measured on a consistent basis (*i.e.*, kWh per year apportioned to each mode) so that the results are meaningful and comparable. In this vein, DOE notes the need to develop a test procedure that addresses the high-variability concerns with its current cooking efficiency measure. DOE understands that IEC, AHAM, manufacturers, and others are exploring whether a test procedure can be developed that responds to the concerns DOE has raised. DOE expects to evaluate potential future test procedures to determine whether any address the concerns discussed above and meet the requirements of section 325(gg) of the Act, thereby making them suitable candidates for use in amending the DOE test procedure. If such test procedures are developed, DOE will consider a combined measure of microwave oven energy efficiency in a future rulemaking.

D. Incorporating by Reference IEC Standard 62301 First Edition 2005–06 for Measuring Standby Mode and Off Mode Power in Microwave Ovens

As discussed in section I of this notice, DOE received comments in response to the Framework Document that it should revise the microwave oven test procedure to address standby power. In response to these comments, DOE investigated existing test methods that could be incorporated by reference for measuring standby power in microwave ovens. DOE also investigated test methods for measuring off mode power in microwave ovens.

As noted previously, EPCA, as amended by EISA 2007, requires that test procedures ''shall be amended pursuant to section 323 to include standby mode and off mode energy consumption, taking into consideration the most current versions of Standards 62301 and 62087 of the International Electrotechnical Commission.* * *'' (42 U.S.C. 6295(gg)(2)(A)) DOE noted that IEC Standard 62301 provides for the measurement of standby power in electrical appliances, including microwave ovens, and, thus, is applicable to the proposed amendments to the test procedure. DOE also reviewed IEC Standard 62087, which specifies methods of measurement for the power consumption of TV receivers, VCRs, set top boxes, audio equipment, and multi-function equipment for consumer use. IEC Standard 62087 does not, however, include measurement for the power consumption of electrical appliances such as microwave ovens. Therefore, DOE determined that IEC Standard 62087 was not suitable for the proposed amendments to the microwave oven test procedure for this rulemaking.

The microwave oven standby power data that AHAM provided to DOE were based on measurements of standby power in accordance with IEC Standard 62301, as were the data DOE gathered in response to stakeholder comments on the Framework Document. DOE conducted a test program to analyze the suitability of IEC Standard 62301 for incorporation into the DOE microwave oven test procedure. Specifically, DOE sought to determine whether the IEC Standard 62301 test conditions and procedures would be suitable for incorporation into the DOE test procedure for microwave ovens to measure standby mode power use. Test data suggest that, with additional specifications added for test cycle duration and starting clock time, IEC Standard 62301 is indeed suitable for inclusion in the DOE test procedure for that purpose.

In reviewing alternative standby power test procedures for potential amendments to the DOE test procedure, DOE investigated both testing conditions and testing methods specified in the test procedures used by countries considered to be international leaders in reducing standby power consumption. The Japanese Electrical Manufacturers' Association (JEMA), which has been involved with Japan's Top Runner program,[8] indicated that the test procedure it uses resembles IEC Standard 62301 for standby testing of microwave ovens. In a March 2008 conversation with DOE, JEMA stated that the test procedure involves connecting the microwave oven to the power supply (without cooking), confirming that there is no change in the power supply (stable state), then measuring power consumption for one hour. Korea's e-Standby Program[9] uses a microwave oven test procedure in which a water load is heated for two minutes, and then the water load is removed, and the door is closed. After 30 minutes, the average standby power is measured over a 1-hour period. Thirty minutes later, the test is repeated, and the two standby power measurements are averaged.[10]

Although DOE recognizes the merits of these alternative standby power test procedures, DOE believes that IEC Standard 62301 still provides a more representative average standby power measurement than the versions Japan

[7] DOE notes that if a microwave oven standard is established based on standby power alone, measurable energy savings would certainly be achieved. If, however, standby power were to be combined with cooking efficiency, it is conceivable that many microwave ovens could already comply with the standard without reducing standby power, since the annual energy consumption due to standby power is on the same order as that associated with the variability in EF.

[8] Japan's Energy Conservation Act uses a ''top runner'' method to set energy efficiency targets for residential, commercial, and transportation sector equipment. Target values for future products are set based on the level of the most energy efficient products on the market at the time of the value setting process (*i.e.*, the ''top runners''). For more information, visit *http://www.eccj.or.jp/index_e.html*.

[9] Korea's e-Standby Program is a voluntary labeling program designed to promote the reduction of standby power consumption in home and office products. For more information, visit *http://www.kemco.or.kr/*. (English translation not available yet at the time the notice was written.)

[10] KEMCO publication, ''e-Standby Program Application Regulation,'' February 2007, pp. 48–49. Available online at *http://www.apec-esis.org/library/Korea_eStandby_Program_20070209.pdf*.

and Korea use because of the variations in power consumption associated with clock time display. DOE is unaware of any other test procedures applicable to the measurement of standby power in electrical appliances such as microwave ovens. Australia has indicated that it has supported the development of and currently uses IEC Standard 62301 for standby power testing.[11]

DOE also considered harmonization of test procedures with international standby programs, recognizing that microwave oven manufacturers typically supply a global market and, thus, will be subject to standby power standards in multiple countries. The International Energy Agency (IEA) has raised awareness of standby power through publications, international conferences, and policy advice to governments. In 1999, the IEA developed the ''1-Watt Plan,'' which proposed reducing standby power internationally in electronic devices and which advocates that all countries harmonize energy policies and adopt the same definition and test procedure.[12] In addressing harmonization, IEA stated that IEC Standard 62301 provides an internationally-sanctioned definition and test procedure for standby power, and this is now widely specified and used.[13] DOE believes that incorporating IEC Standard 62301 into the DOE test procedure will provide harmonization with most international standards for standby power in microwave ovens.

Considering these factors, DOE suggested at the December 2007 public meeting that clauses from IEC Standard 62301 could be incorporated by reference into the DOE test procedure to measure microwave oven standby power. DOE sought input from stakeholders on this suggestion. At that time, DOE did not suggest amendments to measure off mode power because the December 2007 public meeting predated the requirements promulgated by EISA 2007.

In response to DOE's presentation, the Appliance Standards Awareness Project (ASAP), Natural Resources Defense Council (NRDC), Northwest Power and Conservation Council, Northeast Energy Efficiency Partnerships, and ACEEE (hereafter ''Joint Comment'') stated in jointly filed comments that DOE should modify the oven, cooktop, and microwave oven test procedures as necessary to measure not only the clock face standby energy use, but any other standby energy use, such as control electronics and power supply losses. (Joint Comment, No. 29 at p. 6) [14] In addition, the Joint Comment recommended that DOE should use IEC Standard 62301 to test standby power, with the instruction to start the test with a clock setting of 12 a.m. and to run the test for 12 hours or a shorter period of time demonstrated mathematically to be representative of a 12-hour period. (Joint Comment, No. 29 at p. 9) ASAP commented that it supports a test procedure change to address microwave oven standby power, and that this change should not be a hurdle to implementing a standard that addresses standby power consumption. (ASAP, Public Meeting Transcript, No. 23.7 at p. 72) General Electric (GE) commented that it does not believe there is justification for the development of ''necessarily complex'' new test procedures for cooking products. (GE, No. 30 at p. 2)

DOE believes that the amendments to the microwave oven test procedure proposed in today's notice are not ''necessarily complex,'' and that the test procedure would provide a uniform and widely accepted test method for measuring standby mode and off mode power consumption. DOE also believes that the proposed amendments to the microwave oven test procedure would provide a method to measure the standby energy use of not just the clock display, but all microwave oven components, such as control electronics and power supply losses. The Joint Comment's concerns regarding modifying the oven and cooking top test procedures and about the starting clock time and test duration are addressed in sections III.A and III.F, respectively.

For the reasons presented above, DOE proposes in today's notice to incorporate by reference into the DOE test procedure for microwave ovens specific clauses from IEC Standard 62301 for the measurement of standby mode power. DOE believes that these clauses also can be applied to the measurement of off mode power for microwave ovens. Thus, DOE proposes to incorporate the same clauses from IEC Standard 62301 for measuring both standby mode and off mode power consumption. Specifically, these clauses provide test conditions and testing procedures for measuring the average standby mode and average off mode power consumption. With respect to testing conditions, section 4 of IEC Standard 62301 provides conditions for the supply voltage waveform, ambient room air temperature, and power measurement meter tolerances to provide for repeatable and precise measurements of standby mode and off mode power consumption. Section 5 of IEC Standard 62301 regarding testing procedures clarifies the measurement of standby mode for units with a short-duration higher power state before a lower power state, and it also provides methods for measuring standby mode and off mode power when the power measurement is stable and unstable (*i.e.*, varies over a representative cycle).

However, after careful review, DOE has determined that not all provisions of IEC Standard 62301 are appropriate for incorporation into DOE's microwave oven test procedure. IEC Standard 62301 also contains provisions in addition to those applicable to standby mode and off mode power testing of microwave ovens. For example, IEC Standard 62301 provides general conditions for the power supply, which the current DOE test procedure already addresses. IEC Standard 62301 also provides requirements for information to be recorded in a test report, which are beyond the scope of DOE's test procedure. Hence, only the applicable sections and clauses (as stated above) that are relevant to measurement of microwave oven standby mode and off mode power are incorporated by reference in today's proposed rule.

Finally, DOE recognizes that the IEC is developing an updated test procedure (IEC Standard 62301 Ed. 2.0). DOE understands that IEC projects publication of the new test procedure in July 2009, although the projected publication date could be subject to changes that would push the date back further. While DOE plans to follow development of the revised IEC Standard, the Department intends to determine whether a standby power standard level for microwave ovens is technologically feasible and economically justified in the appliance standards rulemaking, and to publish a final rule by March 2009. Thus, DOE plans to use the current version of IEC Standard 62301 in today's proposed test procedure, because the new version will be published after the final rule in the appliance standards rulemaking is

[11] For information on Australia's Standby Program, visit *http://www.energyrating.gov.au/standby-background.html.*

[12] For more information on IEA's ''1-Watt Plan,'' visit *http://www.iea.org/textbase/subjectqueries/standby.asp.*

[13] IEA, ''Fact Sheet: Standby Power Use and the IEA '1-Watt Plan','' April 2007, p. 1. Available online at *http://www.iea.org/textbase/papers/2007/standby_fact.pdf.*

[14] A notation in the form ''Joint Comment, No. 29 at p. 6'' identifies a written comment that DOE has received and has included in the docket of the standards rulemaking. This particular notation refers to a comment (1) Submitted jointly by the ASAP, NRDC, Northwest Power and Conservation Council, Northeast Energy Efficiency Partnerships, and ACEEE, (Joint Comment) (2) in document number 29 in the docket of that rulemaking, and (3) appearing on page 6 of document number 29.

scheduled to be published. After the final rule is published, subsequent amendments to the referenced IEC Standard by standard-setting organizations would become part of the DOE test procedure only if DOE amends its test procedure to incorporate them.

E. Definitions of ''Active Mode,'' ''Standby Mode,'' and ''Off Mode''

Whirlpool commented on the November 2007 ANOPR that it is imperative to give separate consideration to a standby mode where the product is providing a consumer benefit (*e.g.*, clock display, delay start, instant-on capability) as compared to a true off mode. Whirlpool further commented that the provisions in the proposed IEC Standard 62301 Ed. 2.0 do just that. (Whirlpool, No. 28, pp. 1–2)

DOE recognizes that there are consumer utility features, including those listed by Whirlpool, associated with standby mode but not off mode. EPCA defines ''standby mode'' as ''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.''

(42 U.S.C. 6295(gg)(1)(A)(iii))

EPCA defines ''off mode'' as ''the condition in which an energy-using product—

(I) Is connected to a main power source; and

(II) Is not providing any standby mode or active mode function.''

(42 U.S.C. 6295(gg)(1)(A)(ii))

EPCA defines ''active mode,'' which is referenced in the definition of ''off mode,'' as ''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.''

(42 U.S.C. 6295(gg)(1)(A)(i))

DOE considers ''main functions'' for a microwave oven to be those operations in which the magnetron and/or thermal element is energized for at least a portion of the time for purposes of heating, cooking, and/or defrosting the load.

For the reasons discussed in section III.D, DOE plans to use the EPCA definitions of ''active mode,'' ''standby mode,'' and ''off mode.'' Under these definitions, the modes described by Whirlpool would be classified as standby modes. A microwave oven with a continously energized display or cooking sensor, or a microwave oven that automatically powers down certain energy-consuming components after a cooking cycle and waits to detect an event triggering re-energization of these components, would be considered capable of operation in standby mode but not off mode. DOE additionally notes that if the microwave oven is equipped with a manual power on-off switch, which completely cuts off power to the appliance (*i.e.*, removes or interrupts all connections to the main power source, in the same manner as unplugging the appliance), the microwave oven would not be in the ''off mode'' when the switch is in the ''off'' position.

F. Specifications for the Test Methods and Measurements for Microwave Oven Standby Mode and Off Mode Testing

Because IEC Standard 62301 is written to provide a certain degree of flexibility so that the test standard can be used to measure standby mode and off mode power for most household electrical appliances (including microwave ovens), it does not specify closely the test method for measuring the power consumption in cases in which the measured power is not stable. Section 5.3.2 of IEC Standard 62301 states that ''[i]f the power varies over a cycle (*i.e.*, a regular sequence of power states that occur over several minutes or hours), the period selected to average power or accumulate energy shall be one or more complete cycles in order to get a representative average value.''

DOE investigated the possible regular sequences of power states for microwave ovens in order to propose clarifying language to IEC Standard 62301 that would provide accurate and repeatable test measurements. DOE's testing of standby power indicates that a given unit or model of a microwave oven with a clock display may use varying amounts of standby power depending on the clock time being displayed. According to DOE testing of a microwave oven equipped with a 12-hour clock display, standby power use at different times during a 12-hour cycle could vary by as much as 25 percent. DOE believes that the lack of specificity in IEC Standard 62301 about the test period could produce test results that are not comparable to those obtained using other time periods, and that would not represent the true standby power consumption of its microwave ovens. In addition, different testing laboratories could take different approaches in selecting cycles for testing. To assess possible alternatives to the test cycle specified in IEC Standard 62301, DOE investigated alternative time periods and averaging methods for calculating representative standby power use. Based on this testing, and to assure comparable and valid results, DOE proposes, as presented at the December 2007 public meeting, to include in the microwave oven test procedure a specification of the test period in cases in which the power is not stable as ''a 12-hour ± 30-second period.''

DOE also observed during tests that the standby power measurement for certain displays can be affected by the starting clock time, because for these displays, standby power is a function of the time being displayed. At the December 2007 public meeting, DOE discussed adding a requirement to the microwave oven test procedure that the initial clock time of any display be set at 12 a.m. at the start of the operating cycle. However, subsequent DOE analysis of approaches that are used to achieve very low microwave oven standby levels (*i.e.*, less than 1 W) led DOE to believe that this initial clock time requirement would fail to account for the strategy of an automatic transition to a low standby power state after a certain period of user inactivity. Because such a strategy could effect significant real-world energy savings, DOE no longer proposes to specify a clock time at the start of the test cycle. DOE determined that specifying a 12-hour test period alone would provide for a representative average use cycle for microwave ovens for which the measured power is not stable (*i.e.*, a microwave oven equipped with a 12-hour clock display).

In summary, DOE proposes measuring standby mode and off mode power consumption according to IEC Standard 62301, with a test duration of 12 hours, ± 30 seconds for cases in which power is not stable.

G. Technical Correction for the Microwave Oven Test Cooking Energy Output

The equation provided under section 4.4.1 (''Microwave Oven Test Cooking Energy Output'') of the DOE microwave oven test procedure contains a technical error in the equation for calculation of the microwave oven test cooking energy output, E_T, in watt-hours (Wh). The equation, using the variables and factors provided in the test procedure, currently calculates E_T in kWh instead of Wh. The test cooking energy output

is used to calculate annual energy consumption in section 4.4.3, in which the units for E_T are required to be Wh. Therefore, DOE proposes in today's notice to change the value of the conversion factor, K_e, in section 4.4.1 of 3,412 British thermal units (Btu) per kWh to a value of 3.412 Btu per Wh, so that E_T is calculated in the specified units of Wh. The proposed amended value for K_e in section 4.4.1 is the same as the value defined in section 1.11 (''Symbol Usage'').

H. Compliance With Other EPCA Requirements

Section 323(b)(3) of EPCA requires 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 * * * or estimated annual operating cost of a covered product during a representative average use cycle or period of use * * * and shall not be unduly burdensome to conduct.'' (42 U.S.C. 6293(b)(3)) DOE believes that the incorporation of clauses regarding test conditions and methods in IEC Standard 62301, along with the modifications described above, would satisfy this requirement. The proposed amendments to the DOE test procedure incorporate a test standard that is widely used and accepted internationally to measure standby power in standby mode and off mode. Based on DOE testing and analysis of IEC Standard 62301, DOE has determined that the proposed amendments to the microwave oven test procedure produce standby mode and off mode average power consumption measurements that represent an average use cycle both for cases in which the measured power is stable and when the measured power is unstable (*i.e.*, varies over a cycle). Also, the test methods and equipment that the amendment would require for measuring standby power in microwave ovens do not differ substantially from the test methods and equipment in the current DOE test procedure for measuring microwave oven cooking efficiency. Therefore, manufacturers would not be required to make a major investment in test facilities and new equipment. For these reasons, DOE has concluded that the amended test procedure would produce test results that measure the power consumption of a covered product during a representative average use cycle as well as annual energy consumption, and that the test procedure would not be unduly burdensome to conduct.

IV. Procedural Requirements

A. Review Under Executive Order 12866

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

B. Review Under the 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 rulemaking process. 68 FR 7990. DOE's procedures and policies may be viewed on the Office of the General Counsel's Web site (*http://www.gc.doe.gov*).

DOE reviewed today's proposed rule under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. This rule proposes to prescribe test procedures that would be used to test compliance with energy conservation standards. The proposed rule affects microwave oven test procedures and would not have a significant economic impact, but would provide common testing methods. In addition, the Small Business Administration (SBA) considers an entity to be a small business if, together with its affiliates, it employs fewer than a threshold number of workers specified in 13 CFR part 121 according to the North American Industry Classification System (NAICS) codes. The threshold number for NAICS classification 335221, *Household cooking appliance manufacturers*, which includes microwave oven manufacturers, is 750 employees. DOE understands that only multinational companies with more than 750 employees, and their wholly owned subsidiaries, exist in this industry.

For these reasons, DOE tentatively concludes and certifies that the proposed rule would not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking. DOE will transmit the certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the SBA for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act of 1995

This rulemaking would not impose any new information collection or recordkeeping requirements. Accordingly, OMB clearance is not required under the Paperwork Reduction Act. (44 U.S.C. 3501 *et seq.*)

D. Review Under the National Environmental Policy Act of 1969

In this proposed rule, DOE proposes test procedure amendments that it expects will be used to develop and implement future energy conservation standards for microwave ovens. DOE has determined that this rule falls into a class of actions that are categorically excluded from review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and DOE's implementing regulations at 10 CFR part 1021. Specifically, this rule amends an existing rule without changing its environmental effect, and, therefore, is covered by the Categorical Exclusion in paragraph A6 to Appendix A to subpart D, 10 CFR part 1021, which applies because this rule would establish revisions to existing test procedures that will not affect the amount, quality, or distribution of energy usage, and, therefore, will not result in any environmental impacts.[15] Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, ''Federalism,'' imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. 64 FR 43255 (August 4, 1999). The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States,

[15] 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.''

and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process that it will follow in developing such regulations. 65 FR 13735. DOE examined this proposed rule and 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. Executive Order 13132 requires no further action.

F. Review Under Executive Order 12988

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

G. Review Under the Unfunded Mandates Reform Act of 1995

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

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

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. Today's proposed rule would have no impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

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

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

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). DOE has reviewed today's notice and concluded that it is consistent with applicable policies in the OMB and DOE guidelines.

K. Review Under Executive Order 13211

Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to OIRA a Statement of Energy Effects for any proposed significant energy action. The definition of a ''significant energy action'' is 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 if the proposal were to be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Today's regulatory action is not a significant regulatory action under Executive Order 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy. Therefore, it is not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

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

Under section 301 of the DOE Organization Act (Pub. L. 95–91), DOE must comply with section 32 of the Federal Energy Administration Act of 1974 (Pub. L. 93–275), as amended by the Federal Energy Administration Authorization Act of 1977 (FEAA; Pub. L. 95–70) (15 U.S.C. 788). Section 32 essentially provides that, where a

proposed rule authorizes or requires use of commercial standards, the rulemaking must inform the public of the use and background of such standards. In addition, section 32(c) requires DOE to consult with the Attorney General and the Chairman of the Federal Trade Commission (FTC) concerning the impact of the commercial or industry standards on competition.

The proposed rule incorporates testing methods contained in sections 4 and 5 of the commercial standard, IEC Standard 62301. DOE has evaluated this standard and is unable to conclude whether it fully complies with the requirements of section 32(b) of the FEAA, *i.e.*, whether it was 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 about the impact on competition of using the methods contained in this standard before prescribing a final rule.

V. Public Participation

A. Attendance at Public Meeting

The time, date, and location of the public meeting are listed in the **DATES** and **ADDRESSES** sections at the beginning of this NOPR. To attend the public meeting, please notify Ms. Brenda Edwards at (202) 586–2945. As explained in the **ADDRESSES** section, foreign nationals visiting DOE Headquarters are subject to advance security screening procedures.

B. Procedure for Submitting Requests to Speak

Anyone who has an interest in today's notice, or who represents a group or class of persons with an interest in these issues, may request an opportunity to make an oral presentation at the public meeting. Such persons may hand-deliver requests to speak to the address shown in the **ADDRESSES** section at the beginning of this notice between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Requests may also be sent by mail or e-mail to: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE–2J, 1000 Independence Avenue, SW., Washington, DC 20585–0121, or *Brenda.Edwards@ee.doe.gov*. Persons who wish to speak should include in their request a computer diskette or CD in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format that briefly describes the nature of their interest in this rulemaking and the topics they wish to discuss. Such persons should also provide a daytime telephone number where they can be reached.

DOE requests persons selected to be heard to submit an advance copy of their statements at least one week before the public meeting. DOE may permit persons who cannot supply an advance copy of their statement to participate, if those persons have made advance alternative arrangements with the Building Technologies Program. Requests to give an oral presentation should ask for such alternative arrangements.

C. Conduct of Public Meeting

DOE will designate a DOE official to preside at the public meeting and may also use a professional facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with 5 U.S.C. 553 and section 336 of EPCA (42 U.S.C. 6306). A court reporter will be present to record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the public meeting. After the public meeting, interested parties may submit further comments on the proceedings as well as on any aspect of the rulemaking until the end of the comment period.

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

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

DOE will make the entire record of this proposed rulemaking, including the transcript from the public meeting, available for inspection at the U.S. Department of Energy, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC 20024, (202) 586–9127, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Copies of the transcript are available for purchase from the transcribing reporter.

D. Submission of Comments

DOE will accept comments, data, and information regarding the proposed rule before or after the public meeting, but 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 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. Comments, data, and information submitted to DOE via mail or hand delivery 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 that includes all of the information believed to be confidential, and one copy of the document with that information deleted. DOE will make its own determination as to the confidential status of the information and treat it accordingly.

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

E. 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 on the following issues:

1. Energy Descriptor

DOE seeks comment on the determination of the technical infeasibility of incorporating energy factor and standby mode and off mode power into a single energy descriptor. (See section III.C.)

2. Incorporation of IEC Standard 62301

DOE invites comment on the adequacy of IEC Standard 62301 to measure standby mode and off mode power for microwave ovens in general, and on the suitability of incorporating into DOE regulations the specific provisions described in section III. D.

3. Test Cycle

DOE seeks comment on its proposed clarification to IEC Standard 62301, in which DOE would specify a test period of 12 hours ± 30 seconds for power measurements for microwave ovens for which the measured power is not stable. (See section III.F.)

4. Technical Correction

DOE seeks comment on its proposed change to the conversion factor used in the calculation of microwave oven test cooking energy output in order to produce a value in units of Wh rather than kWh. (See section III.G.)

VI. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of today's Notice of Proposed Rulemaking.

List of Subjects in 10 CFR Part 430

Administrative practice and procedure, Confidential business information, Energy conservation, Household appliances, Imports, Intergovernmental Relations, Small businesses.

Issued in Washington, DC, on October 1, 2008.

John F. Mizroch,

Acting Assistant Secretary, Energy Efficiency and Renewable Energy.

For the reasons stated in the preamble, DOE proposes to amend 10 CFR part 430 to read 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 430.22 is amended by adding paragraph (b)(4)3., to read as follows:

§ 430.22 Reference Sources.

* * * * *

(b) * * *

(4) * * *

3. IEC 62301, ''Household electrical appliances—Measurement of standby power,'' Section 4, General conditions for measurements, Paragraph 4.2, ''Test room,'' Paragraph 4.4, ''Supply voltage waveform,'' and Paragraph 4.5, ''Power measurement accuracy;'' and Section 5 Measurements, Paragraph 5.1, ''General,'' Note 1, and Paragraph 5.3, ''Procedure'' (2005–06).

* * * * *

3. Appendix I to Subpart B of Part 430 is amended as follows:

a. In section 1. *Definitions*, by:

A. Redesignating section 1.11 as 1.15; and adding a new section 1.14;

B. Redesignating sections 1.7 through 1.10 as sections 1.10 through 1.13 respectively; and adding a new section 1.9;

C. Redesignating sections 1.5 through 1.6 as sections 1.7 through 1.8 respectively; and adding a new section 1.6;

D. Redesignating sections 1.1 through 1.4 as sections 1.2 through 1.5, respectively; and adding a new section 1.1;

b. In section 2. *Test Conditions*, by:

1. Revising sections 2.1.3; 2.2.1 and 2.5; and

2. Adding new sections 2.2.1.1, 2.2.1.2 and 2.9.1.3;

c. In section 3. *Test Methods and Measurements*, by adding new sections 3.1.3.2; 3.2.4 and 3.3.14.

d. In section 4. *Calculation of Derived Results From Test Measurements*, by:

1. Revising sections 4.4.1;

The additions and revisions read as follows:

Appendix I to Subpart B of Part 430–Uniform Test Method for Measuring the Energy Consumption of Conventional Ranges, Conventional Cooking Tops, Conventional Ovens, and Microwave Ovens

* * * * *

1. Definitions

* * * * *

1.1 *Active mode* means the condition in which a microwave oven is connected to a main power source, has been activated, and provides one or more main functions.

* * * * *

1.6. *IEC 62301* refers to the test standard published by the International Electrotechnical Commission, titled ''Household electrical appliances—Measurement of standby power,'' Publication 62301 First Edition 2005–06. (See 10 CFR 430.22)

* * * * *

1.9 *Off mode* means the condition in which a microwave oven is connected to a main power source and is not providing any standby mode or active mode function.

* * * * *

1.14 *Standby mode* the condition in which a microwave oven is connected to the main power source and offers one or more of the following user-oriented or protective functions: (1) to facilitate the activation or deactivation of other functions (including active mode) by remote switch (including remote control), internal sensor, or timer; (2) continuous functions, including information or status displays (including clocks) or sensor-based functions.

* * * * *

2. Test Conditions

* * * * *

2.1.3 *Microwave ovens.* Install the microwave oven in accordance with the manufacturer's instructions and connect to an electrical supply circuit with voltage as specified in Section 2.2.1. A watt–hour meter and watt meters shall be installed in the circuit and shall be as described in Section 2.9.1. If trial runs are needed to set the ''on'' time for the test, the test measurements are to be separated according to Section 4, Paragraph 12.6 of IEC 705 Amendment 2. (See 10 CFR 430.22)

* * * * *

2.2.1 *Electrical supply.*

2.2.1.1 *Voltage.* Maintain the electrical supply to the conventional range, conventional cooking top, and conventional oven being tested at 240/120 volts except that basic models rated only at 208/120 volts shall be tested at that rating. Maintain the voltage within 2 percent of the above specified voltages. For microwave oven testing, however, maintain the electrical supply to a microwave oven at 120 volts ±1 volt and at 60 hertz.

2.2.1.2 *Supply voltage waveform.* For the microwave oven testing, maintain the electrical supply voltage waveform as indicated in Section 4, Paragraph 4.4 of IEC 62301.

* * * * *

2.5 *Ambient room air temperature.* During the test, maintain an ambient room air temperature, T_R, of 77°±9 °F (25°±5 °C) for conventional ovens and cooking tops, or as indicated in Section 4, Paragraph 12.4 of IEC 705 Amendment 2 for microwave ovens for power output measurement or as indicated in Section 4, Paragraph 4.2 of IEC 62301 for standby mode and off mode power consumption measurement, as measured at least 5 feet (1.5 m) and not more than 8 feet (2.4 m) from the nearest surface of the unit under test and approximately 3 feet (0.9 m) above the floor. The temperature shall be measured with a thermometer or temperature indicating system with an accuracy as specified in Section 2.9.3.1.

* * * * *

2.9.1.3 *Standby mode and off mode watt meter.* The watt meter used to measure standby mode and off mode shall have a resolution as specified in Section 4, Paragraph 4.5 of IEC 62301. The watt meter shall also be able to record a ''true'' average

power as specified in Section 5, Paragraph 5.3.2(a) of IEC 62301.

* * * * *

3. Test Methods and Measurements

* * * * *

3.1.3.2 *Microwave oven test standby mode and off mode power.* Establish the testing conditions set forth in Section 2, ''TEST CONDITIONS,'' of this Appendix, omitting the microwave oven test load specified in Section 2.8. For microwave ovens that drop from a higher power state to a lower power state as discussed in Section 5, Paragraph 5.1, Note 1 of IEC 62301, allow sufficient time for the microwave oven to reach the lower power state before proceeding with the test measurement. Follow the test procedure as specified in Section 5, Paragraph 5.3 of IEC 62301. For units in which power varies over a cycle, as described in Section 5, Paragraph 5.3.2 of IEC Standard 62301, use the average power approach in Paragraph 5.3.2(a), but with a single test period of 12 hours ± 30 sec. If a microwave oven is capable of operation in either standby mode or off mode, or both, as defined in Sections 1.9 and 1.14, respectively, test the microwave oven in each mode in which it can operate.

* * * * *

3.2.4 *Microwave oven test standby mode and off mode power.* Make measurements as specified in Section 5, Paragraph 5.3 of IEC 62301. If the microwave oven is capable of operating in standby mode, measure the average standby mode power of the microwave oven, P_{SB}, in watts as specified in Section 3.1.3.2. If the microwave oven is capable of operating in off mode, measure the average off mode power of the microwave oven, P_{OFF}, as specified in Section 3.1.3.2.

* * * * *

3.3.14 Record the average standby mode power, P_{SB}, for the microwave oven standby mode, as determined in Section 3.2.4 for a microwave oven capable of operating in standby mode. Record the average off mode power, P_{OFF}, for the microwave oven off mode power test, as determined in Section 3.2.4 for a microwave oven capable of operating in off mode.

* * * * *

4. Calculation of Derived Results From Test Measurements

* * *

4.4 *Microwave oven.*

4.4.1 *Microwave oven test energy output.* Calculate the microwave oven test energy output, E_T, in watt–hour's (kJ). The calculation is repeated two or three times as required in Section 3.2.3. The average of the E_T's is used for a calculation in Section 4.4.3. For calculations specified in units of energy [watt–hours (kJ)], use the equation below:

$$E_T = \frac{C_p M_w (T_2 - T_1) + C_c M_c (T_2 - T_0)}{K_e}$$

Where:

M_w=the measured mass of the test water load, in pounds (g).

M_c=the measured mass of the test container before filling with test water load, in pounds (g).

T_1=the initial test water load temperature, in °F (°C).

T_2=the final test water load temperature, in °F (°C).

T_0=the measured ambient room temperature, in °F (°C).

C_c=0.210 Btu/1b-°F (0.88 kJ/kg · °C), specific heat of test container.

C_p=1.0 Btu/lb-°F (4.187 kJ/kg · °C), specific heat of water.

K_e=3.412 Btu/Wh (3,600 kJ/kWh) conversion factor of watt–hours to Btus.

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