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## NUCLEAR REGULATORY COMMISSION

### 10 CFR Part 72

[NRC–2011–0002]

RIN 3150–A189

#### List of Approved Spent Fuel Storage Casks: NUHOMS® HD System Revision 1; Confirmation of Effective Date

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Direct final rule: Confirmation of effective date.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC or the Commission) is confirming the effective date of March 29, 2011, for the direct final rule that was published in the **Federal Register** on January 13, 2011 (76 FR 2243). This direct final rule amended the NRC's spent fuel storage regulations at Title 10 of the Code of Federal Regulations (10 CFR 72.214) to revise the NUHOMS® HD System listing to include Amendment Number 1 to Certificate of Compliance (CoC) Number 1030.

**DATES:** *Effective Date:* The effective date of March 29, 2011, is confirmed for this direct final rule.

**ADDRESSES:** Documents related to this rulemaking, including any comments received, may be examined at the NRC Public Document Room, Room O–1F21, 11555 Rockville Pike, One White Flint North, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Gregory Trussell, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone: 301–415–6445, e-mail: [Gregory.Trussell@nrc.gov](mailto:Gregory.Trussell@nrc.gov).

**SUPPLEMENTARY INFORMATION:** On January 13, 2011 (76 FR 2243), the NRC published a direct final rule amending its regulations at 10 CFR 72.214 to

include Amendment No. 1 to CoC No. 1030. Amendment No. 1 will revise the definitions for Damaged Fuel Assembly and Transfer Operations; add definitions for Fuel Class and Reconstituted Fuel Assembly; add Combustion Engineering 16x16 class fuel assemblies as authorized contents; reduce the minimum off-normal ambient temperature from –20 °F to –21 °F; expand the authorized contents of the NUHOMS® HD System to include pressurized water reactor fuel assemblies with control components; reduce the minimum initial enrichment of fuel assemblies from 1.5 weight percent uranium-235 to 0.2 weight percent uranium-235; clarify the requirements of reconstituted fuel assemblies; add requirements to qualify metal matrix composite neutron absorbers with integral aluminum cladding; clarify the requirements for neutron absorber tests; delete use of nitrogen for draining the water from the dry shielded canister (DSC), and allow only helium as a cover gas during DSC cavity water removal operations; and make corresponding changes to the technical specifications. In the direct final rule, NRC stated that if no significant adverse comments were received, the direct final rule would become final on March 29, 2011.

The NRC did not receive any comments on the direct final rule. Therefore, this rule will become effective as scheduled.

Dated at Rockville, Maryland, this 3rd day of March 2011.

For the Nuclear Regulatory Commission.

**Cindy Bladey,**

*Chief, Rules, Announcements, and Directives Branch, Division of Administrative Services, Office of Administration.*

[FR Doc. 2011–5346 Filed 3–8–11; 8:45 am]

**BILLING CODE 7590–01–P**

## 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:** Interim final rule.

**SUMMARY:** The U.S. Department of Energy (DOE) is amending its test procedures for microwave ovens under the Energy Policy and Conservation Act (EPCA) to provide for the measurement of standby mode and off mode power use by microwave ovens. These amendments incorporate into the DOE test procedure provisions from the International Electrotechnical Commission (IEC) Standard 62301, “Household electrical appliances—Measurement of standby power,” First Edition 2005–06 (IEC Standard 62301 (First Edition)). In addition, these amendments adopt in the DOE test procedure definitions of modes based on the relevant provisions from the IEC Standard 62301 Second Edition, Final Draft International Standard (IEC Standard 62301 (FDIS)), as well as language to clarify application of these provisions for measuring standby mode and off mode power consumption in microwave ovens.

**DATES:** This rule is effective April 8, 2011. Comments on the interim final rule are due September 6, 2011. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register on April 8, 2011.

**ADDRESSES:** The public may review copies of all materials related to this rulemaking at the U.S. Department of Energy, Resource Room of the Building Technologies Program, 950 L'Enfant Plaza, SW., Suite 600, Washington, DC, (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 regarding visiting the Resource Room.

Any comments submitted must identify the Interim Final Rule 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 in section V 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.

Written comments regarding the burden-hour estimates or other aspects of the collection-of-information requirements contained in this proposed rule may be submitted to Office of Energy Efficiency and Renewable Energy through the methods listed above and by e-mail to [Christine J. Kymn@omb.eop.gov](mailto:Christine.J.Kymn@omb.eop.gov).

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

Docket: The docket is available for review at <http://www.regulations.gov>, including **Federal Register** notices, framework documents, public meeting attendee lists and transcripts, comments, and other supporting documents/materials. The documents in the docket are listed for review. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure. See section V of this SNOPR for instructions on how to submit comments and to access publicly available material on the [regulations.gov](http://www.regulations.gov) Web site.

A link to the Supplemental Notice of Proposed Rulemaking (SNOPR) web page can be found at: [http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/cooking\\_products.html](http://www1.eere.energy.gov/buildings/appliance_standards/residential/cooking_products.html), under Supplemental Notice of Proposed Rulemaking (SNOPR). This web page contains links to the SNOPR, information from the public meeting and [regulations.gov](http://www.regulations.gov). The [regulations.gov](http://www.regulations.gov) web page will also contain instructions

on how to access all documents, including public comments, in the docket.

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

#### FOR FURTHER INFORMATION CONTACT:

Mr. Wes Anderson, 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) 586-7335. E-mail: [Wes.Anderson@ee.doe.gov](mailto:Wes.Anderson@ee.doe.gov).

Mr. Ari Altman, U.S. Department of Energy, Office of the General Counsel, GC-71, 1000 Independence Avenue, SW., Washington, DC 20585-0121. Tel.: (202) 287-6307, E-mail: [Ari.Altman@hq.doe.gov](mailto:Ari.Altman@hq.doe.gov).

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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, in context, "the Act") 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," including microwave ovens (all of which are referred to below as "covered products").<sup>1</sup> (42 U.S.C. 6291(1)-(2) and 6292(a)(10))

Under the Act, this program consists essentially of three parts: (1) Testing; (2) labeling; and (3) establishing Federal energy conservation standards. Pursuant to EPCA, the testing requirements consist of test procedures that manufacturers of covered products must use as the basis for certifying to DOE that their products comply with applicable energy conservation standards adopted under EPCA and for representations about the efficiency of those products. Similarly, DOE must use these test requirements to determine whether the products comply with EPCA standards. Under 42 U.S.C. 6293, EPCA sets forth criteria and procedures for DOE's adoption and amendment of such test procedures. EPCA provides that any 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))

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. In determining the amended energy conservation standard, the Secretary shall measure, pursuant to the amended test procedure, the energy efficiency, energy use, or water use of a representative sample of covered products that minimally comply with

<sup>1</sup> All references to EPCA refer to the statute as amended including through the Energy Independence and Security Act of 2007, Public Law 110-140. For editorial reasons, upon codification in the U.S. Code, Part B was re-designated Part A.

the existing standard. The average of such energy efficiency, energy use, or water use levels determined under the amended test procedure shall constitute the amended energy conservation standard for the applicable covered products. (42 U.S.C. 6293(e)(2)) EPCA also states that models of covered products in use before the date on which the amended energy conservation standard becomes effective (or revisions of such models that come into use after such date and have the same energy efficiency, energy use, or water use characteristics) that comply with the energy conservation standard applicable to such covered products on the day before such date shall be deemed to comply with the amended energy conservation standard. (42 U.S.C. 6293(e)(3))

DOE is also required to amend the test procedures for covered products to address standby mode and off mode energy consumption and to integrate such energy consumption into the energy descriptor for that product unless the current test procedures already fully account for such consumption. If integration is technically infeasible, DOE must 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 “Household electrical appliances—Measurement of standby power,” First Edition 2005–06 (IEC Standard 62301 (First Edition))<sup>2</sup> and IEC Standard 62087 “Methods of measurement for the power consumption of audio, video, and related equipment,” Second Edition 2008–09. *Id.* For microwave ovens, DOE must prescribe any such amendment by March 31, 2011. (42 U.S.C. 6295(gg)(2)(B)(vi))

Historically, DOE’s active mode test procedure for microwave ovens appeared at appendix I to subpart B of Title 10 of the Code of Federal Regulations (CFR).<sup>3</sup> That test procedure

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. That final rule incorporated portions of IEC Standard 705–1998 and Amendment 2–1993, “Methods for Measuring the Performance of Microwave Ovens for Households and Similar Purposes” to measure microwave oven cooking efficiency, but did not address energy use in the standby or off modes. *Id.*

DOE published a notice of proposed rulemaking (NOPR) on October 17, 2008 (hereafter referred to as the October 2008 TP NOPR), in which it proposed incorporating provisions from IEC Standard 62301 (First Edition) into the DOE active mode test procedure, as well as language to clarify application of these provisions for measuring standby mode and off mode power in microwave ovens. 73 FR 62134. DOE held a public meeting on November 14, 2008 (hereafter referred to as the November 2008 public meeting) to hear oral comments on and solicit information relevant to the October 2008 TP NOPR. Interested parties remarked upon, among other things, harmonization of standards and test procedures with those of other countries and international agencies. In particular commenters urged DOE to consider IEC Standard 62301 (Second Edition), which was in the process of being finalized and published.

EPCA requires DOE to consider the most recent version of IEC Standard 62301. After the October 2008 TP NOPR was published, DOE determined that it would consider the revised version of IEC Standard 62301 (*i.e.*, IEC Standard 62301 (Second Edition)), in the microwave oven test procedure rulemaking. The revised version was expected in July 2009. DOE anticipated, based on review of drafts of the updated IEC Standard 62301, that the revisions could include different mode definitions. IEC Standard 62301 (Second Edition) was not published, however, until January 27, 2011.

Because the Energy Independence and Security Act (EISA) of 2007 amendments to EPCA require DOE to establish test procedures for standby mode and off mode by March 31, 2011, and because DOE is conducting a concurrent energy conservation

procedure for microwave ovens under EPCA in a final rule published on July 22, 2010 (the July 2010 TP Final Rule). 75 FR 42579. DOE also published a notice of a public meeting to discuss a separate rulemaking process to replace the repealed provisions for measuring microwave oven energy efficiency in active mode on July 22, 2010. 75 FR 42611.

standards rulemaking for standby and off mode energy use, discussed below, DOE published a supplemental notice of proposed rulemaking (SNOPR) on July 22, 2010 (hereafter referred to as the July 2010 TP SNOPR) proposing mode definitions based on those in the then current draft version of IEC Standard 62301 (Second Edition), designated as IEC Standard 62301 Second Edition, Committee Draft for Vote (IEC Standard 62301 (CDV)). 75 FR 42612, 42620–23 (July 22, 2010). DOE noted in the July 2010 TP SNOPR that IEC Standard 62301 (CDV) contains proposed amendments to IEC Standard 62301 (First Edition), including new mode definitions based on those proposed in IEC Standard 62301 (Second Edition), Committee Draft 2 (IEC Standard 62301 (CD2))<sup>4</sup> and which address comments received by interested parties in response to IEC Standard 62301 (CD2). As a result of this continued refinement on the basis of public comment, DOE stated that it believes that these most recent mode definitions represent the best definitions available for the analysis in support of this rulemaking. 75 FR 42612, 42621.

DOE held a public meeting on September 16, 2010 (hereafter referred to as the September 2010 public meeting), to hear oral comments on and solicit information relevant to the July 2010 TP SNOPR. Interested parties remarked upon, among other things, covered products, incorporation of IEC Standard 62301 (First Edition), mode definitions, and testing procedures. On October 29, 2010, the IEC released a finalized draft version of IEC Standard 62301 (Second Edition), IEC Standard 62301 (FDIS).

As stated in the previous paragraph, DOE is considering amended microwave oven energy conservation standards addressing standby and off mode energy use concurrently with the test procedure rulemaking process. The National Appliance Energy Conservation Act of 1987 (NAECA; Pub. L. 100–12), which amended EPCA, established prescriptive standards for kitchen ranges and ovens, but no standards were established for microwave ovens. (42 U.S.C. 6295(h)) The NAECA amendments also required DOE to conduct two cycles of rulemakings to determine whether to revise the standard. (42 U.S.C. 6295(h)(2)) DOE undertook the first cycle of these rulemakings and issued a final rule on September 8, 1998 (63 FR 48038), in which DOE found that no amended standards were justified for

<sup>4</sup> IEC Standard 62301 (CD2) was the draft version immediately preceding IEC Standard 62301 (CDV).

<sup>2</sup> IEC standards are available for purchase at: <http://www.iec.ch>.

<sup>3</sup> In a final rule published on April 8, 2009 (74 FR 16040), DOE found that no active mode cooking efficiency standards were justified for electric cooking products, including microwave ovens. This rulemaking completed the second cycle of rulemakings required by the NAECA amendments to EPCA. (42 U.S.C. 6295(h)(2)) In its analysis for the second cycle of rulemakings, DOE determined that the microwave oven test procedure provisions to measure cooking efficiency do not produce accurate and repeatable test results. DOE is unaware of any test procedures that have been developed that address the concerns with the DOE microwave oven cooking efficiency test procedure. DOE, therefore, repealed the regulatory provisions establishing the active mode cooking efficiency test

electric cooking products, including microwave ovens.

DOE initiated the second cycle of energy conservation standards rulemakings for cooking products by publishing a framework document covering, in part, microwave ovens, and giving notice of a public meeting and the availability of the document. 71 FR 15059 (March 27, 2006). In its subsequent advance notice of proposed rulemaking (ANOPR) (72 FR 64432, Nov. 15, 2007) (hereafter the November 2007 ANOPR) concerning energy conservation standards for commercial clothes washers and residential dishwashers, dehumidifiers, and cooking products, including microwave ovens (collectively, appliance standards), DOE determined that energy consumption by microwave ovens in the standby mode represents a significant portion of microwave oven energy use, and that a standard regulating such energy consumption would likely have significant energy savings. 72 FR 64432, 64441–42. Before standby power could be included in an efficiency standard for microwave ovens, however, test procedures for the measurement of standby power would be required. *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 (First Edition) 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 (First Edition) 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. This would permit more accurate measurement of average standby power consumption.

DOE published a NOPR for the appliance standards rulemaking on October 17, 2008, in which it tentatively concluded that a standard for microwave oven standby mode and off mode energy consumption would be technologically feasible and economically justified. 73 FR 62034. DOE received responses to the NOPR from interested parties regarding the harmonization of standards and test procedures with those of other countries and international agencies. As a result of these comments, DOE decided to consider the revised version of IEC Standard 62301 (*i.e.*, IEC Standard

62301 (Second Edition)), which is a widely accepted international test procedure, in the development of energy conservation standards for the standby mode and off mode power consumption of microwave ovens. As stated above, issuance of the revised version was expected in July 2009 but did not occur until January 27, 2011; as a result, DOE considered the most recent draft at the time, version IEC Standard 62301 (CDV), for the July 2010 TP SNOPT. 75 FR 42612, 42614.

## II. Summary of the Interim Final Rule

In today's interim final rule, DOE is amending its test procedures for microwave ovens to:

(1) Address the statutory requirement to establish procedures for the measurement of standby mode and off mode power consumption.

(2) Support the concurrent development of energy conservation standards that address use of standby mode and off mode power by this product.

In today's interim final rule, DOE is incorporating by reference specific clauses from IEC Standard 62301 (First Edition) regarding test conditions and testing procedures for measuring the average standby mode and average off mode power consumption into the microwave oven test procedure. DOE is also adopting in the microwave oven test procedure definitions of "active mode," "standby mode," and "off mode" that are based on the definitions provided in IEC Standard 62301 (FDIS). DOE further adopts language to clarify the application of clauses from IEC Standard 62301 (First Edition) for measuring standby mode and off mode power in this interim final rule. Specifically, DOE is defining 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 displays can vary based on the displayed clock time.

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.*

As noted above, EPCA requires that DOE determine whether a proposed test procedure amendment would alter the measured efficiency of a product, thereby requiring adjustment of existing standards. (42 U.S.C. 6293(e)) Because there are currently 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. DOE is conducting a concurrent rulemaking process to consider standby and off mode energy conservation standards and will consider this test procedure rulemaking as any standards are developed.

## III. Discussion

### A. Products Covered by This Test Procedure Rulemaking

This rule amends the test procedures for microwave ovens to include test procedures for the measurement of standby mode and off mode power use. This rule also clarifies that the definition of "microwave oven" in 10 CFR 430.2 includes microwave ovens with or without thermal elements designed for surface browning of food and combination 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 In the October 2008 TP NOPR, DOE stated that the proposed amendments would establish test procedures for 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. DOE stated that the proposal did not address test procedures for 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). DOE noted that the proposal also did not propose test procedures for 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. DOE requested data on the efficiency characteristics of combination ovens in the November 2007 ANOPR, but did not receive any information. DOE also noted in the October 2008 TP NOPR that if this information is made available at a later date, DOE may consider combination ovens in future proceedings. 73 FR 62134, 62137. In response to the October 2008 TP NOPR, interested parties commented that the proposed definition for covered products lacks clarity and is

inconsistent with current regulations, and requested clarification on what would be considered covered products.

For the July 2010 TP SNOPR, DOE conducted a survey of microwave oven models currently available on the U.S. market, including countertop, over-the-range, and built-in configurations. DOE determined that fewer than 1 percent of the available models (1 out of 129) have thermal elements for grilling but no convection capability (hereafter referred to as “microwaves with thermal elements only”), while 16 percent (21 out of 129) are combination units (containing microwave, convection, and possibly thermal elements). 75 FR 42612, 42616 DOE stated that, although it does not have shipment-weighted data regarding the percentage of microwave ovens with thermal elements for grilling or combination ovens, DOE does not believe that including microwave ovens with thermal elements only, with or without further specification of the function of the thermal elements, would substantially affect the number or scope of covered products in this rulemaking. *Id.* DOE proposed to clarify that microwave ovens with thermal elements only would be considered covered products under the definition provided in 10 CFR 430.2. *Id.* Based on DOE’s product literature review for the single available microwave oven with thermal elements only, DOE stated that it believes that the standby and off mode operation for microwave ovens with thermal elements only does not differ from that of microwave-only units. *Id.*

DOE also proposed to clarify that combination microwave ovens (*i.e.*, microwave ovens that incorporate convection features and possibly other means of cooking) would be considered covered products under the regulatory definition in 10 CFR 430.2 because they are capable of cooking or heating food by means of microwave energy. 75 FR 42612, 42616–17. As a result, DOE analyzed the features and operation of these products, conducting in-store surveys and product literature reviews, to determine if additional testing procedures would be required that differ from the testing procedures for microwave-only units. *Id.* DOE stated that combination ovens may have more sophisticated displays and menu screens, as well as additional features associated with active mode operation (*i.e.*, fans, heater elements, etc.) that may require larger power supplies than a microwave-only unit and therefore may consume more power in standby or off mode. *Id.* However, DOE also stated that, based on its preliminary analysis, it believes that the general standby and off mode operation for combination

microwave ovens does not differ from that of microwave-only units and microwave ovens with thermal elements only. The standby mode operation for combination microwave ovens, as with other types of microwave ovens, consists of an energized display with a clock. *Id.*

The July 2010 TP SNOPR did not affect DOE’s proposal from the October 2008 TP NOPR that the test procedure would cover microwave ovens with and without browning (thermal) elements. Because DOE tentatively determined that the operation in standby and off mode for microwave-only units, microwave ovens with thermal elements only, and combination microwave ovens is the same, DOE proposed that the same test procedure amendments for standby and off mode testing, be used for all of these product types. *Id.*

In response to the July 2010 TP SNOPR, DOE received multiple comments on its proposed definition of microwave oven for the purpose of determining covered products. Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SCGC), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE), jointly (hereafter, “the California Utilities”) the American Council for an Energy Efficient Economy (ACEEE) and the Appliance Standards Awareness Project (ASAP), jointly (hereafter, “ACEEE/ASAP Comment”), and the Northwest Energy Efficiency Alliance (NEEA) supported DOE’s definition of microwave ovens with or without thermal elements. (ACEEE/ASAP Comment, No. 20 at p. 1; California Utilities, No. 17 at p. 1; NEEA, No. 16 at p. 2) The Association of Home Appliance Manufacturers (AHAM) stated that it opposed the inclusion of thermal elements designed for surface browning of food in the definition of microwave ovens because there is no repeatable and reproducible test procedure for thermal elements. According to AHAM, those units with thermal elements may use different amounts of energy than units with microwave-only capability, and furthermore, there is no definition of “browning”. (AHAM, No. 19 at p. 2)

In today’s interim final rule, DOE is adopting provisions to measure the standby mode and off mode energy use of microwave ovens. The energy use of components necessary for any thermal elements, if present, in standby mode and off mode, would be measured under the amended test procedure. DOE is not adopting at this time any measures addressing energy use of microwave ovens in active mode, including the energy required to activate thermal

elements. At the time that DOE considers amending the test procedure to include active mode energy use, DOE will evaluate the measurement of thermal element energy consumption, including methodology to account for the usage of such elements (*i.e.*, surface browning or convection heating). DOE does not believe that the lack of current means to measure active mode energy use in microwave ovens warrants the exclusion of certain products from coverage under the amended test procedure, which is only addressing standby mode and off mode energy use.

DOE also received multiple comments regarding the definition of combination ovens and their inclusion as covered products. AHAM and Whirlpool Corporation (Whirlpool) objected to the definition in the July 2010 TP SNOPR, stating that it is overly broad and that a free-standing range or built-in oven with a microwave component should not be considered as a combination microwave oven. AHAM and Whirlpool requested clarification as to whether a cooking product that utilizes radiant as well as microwave energy would be a covered product. According to Whirlpool, a cooking product which primarily uses radiant heat for cooking and which is supplemented by microwave energy would be covered as a conventional cooking product and thus should not be a covered product for this rulemaking. (AHAM, No. 19 at p. 2; AHAM, Public Meeting Transcript, No. 26 at pp. 25, 30, 37–38; Whirlpool, No. 18 at p. 2; Whirlpool, Public Meeting Transcript, No. 26 at pp. 36–37) GE Consumer and Industrial (GE) commented that the definition of combination microwave oven may not cover future products, and that evaluation of standby power may need to take into account such features as noise suppression and components to support heating elements. (GE, Public Meeting Transcript, No. 26 at pp. 30–31) AHAM and Whirlpool commented that the definition must be made in consideration of future active mode test procedures and energy conservation standards, as well as the current rulemakings addressing standby mode and off mode. AHAM stated that there is no test procedure for a convection microwave oven, and thus would object to combination microwave oven being a covered product for the standby mode and off mode test procedure because of the implications for active mode. According to AHAM, an active mode test procedure is likely to have inherent complexities and not considering active mode in the definition of covered products would only add to those

complexities. (AHAM, No. 19 at p. 2; AHAM, Public Meeting Transcript, No. 26 at pp. 26–27, 33–35; Whirlpool, Public Meeting Transcript, No. 26 at p. 36)

The California Utilities, the ACEEE/ASAP Comment, NEEA, and the Natural Resources Defense Council (NRDC) support DOE's definition of combination ovens and their inclusion as covered products. (California Utilities, No. 17 at p. 1; ACEEE/ASAP Comment, No. 20 at p. 1; NEEA, No. 16 at p. 2; NRDC, No. 21 at p. 1) According to the California Utilities, no test data or information has been provided to suggest that combination microwave ovens have additional standby or off mode operations or features that would require separate test procedures to measure these modes. The California Utilities and NEEA stated that combination ovens are a significant and growing share of the overall microwave oven market, and the California Utilities commented that significant energy savings may be achieved by setting energy conservation standards addressing standby mode and off mode energy use for these products. (California Utilities, No. 17 at p. 1; NEEA, No. 16 at p. 2) ACEEE commented that test procedures should cover a broad range of products to support the energy conservation standards rulemaking process. (ACEEE, Public Meeting Transcript, No. 26 at pp. 28–29) NRDC commented that it agreed with DOE's conclusion in the July 2010 TP SNOPT that standby mode and off mode functions do not vary across the scope of covered products and so there is no justification for different standby mode and off mode test procedures. NRDC also stated that the covered products could be categorized as different product classes for the purposes of energy conservation standards or could be the subject of different active mode test procedures. (NRDC, No. 21 at p. 1)

In further considering the definition of combination microwave oven, DOE reiterates, as stated in the October 2008 TP NOPR, that the proposal would exclude as a covered product 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. Therefore, the proposal would exclude a free-standing range with microwave capability. However, DOE does not have information to suggest that a built-in oven, incorporating both radiant elements and microwave capability, is fundamentally different in cooking

functions than a countertop or over-the-range cooking product incorporating similar heating components. DOE tests of combination microwave ovens included several built-in models, and DOE did not observe any different standby or off modes as compared to countertop and over-the-range models. Therefore, DOE believes a built-in combination microwave oven would be a covered product for the purposes of this test procedure. DOE based its analysis on products currently available on the market in the United States. DOE is unable to consider testing procedures for future products until it can review details of the technologies, control strategies, and operating modes of any such microwave ovens or combination microwave ovens.

DOE further considered whether the definition of a combination microwave oven as a covered product hinges on which cooking mode (*i.e.*, radiant heating or microwave energy) is primary. DOE is not aware of any cooking products with both microwave and radiant heating features which cannot be operated in microwave-only mode, nor does DOE have any information to determine consumer usage of microwave cooking as compared to other cooking modes for such products. Thus, DOE believes that all ovens equipped with microwave capability would be considered a covered product for today's interim final rule. DOE will evaluate any differences among microwave ovens and combination microwave ovens, including installation configurations and heating features that may warrant different product classes or energy conservation standards during its microwave oven standards rulemaking.

DOE notes that defining a covered product for the purposes of measuring standby mode and off mode energy use does not require that active mode provisions be specified for that same product. When considering future active mode test procedure amendments, DOE will evaluate the suitability of separate provisions for combination microwave ovens to measure the energy performance of heating components other than the microwave portion.

AHAM noted the difference between countertop and over-the-range microwaves, and stated it was not sure if the difference should be addressed in the test procedure or by the creation of separate product classes in the energy conservation standards rulemaking.

Limited DOE testing of a small sample of over-the-range microwave ovens, as well as more extensive testing of a sample of over-the-range combination microwave ovens did not identify any

different standby or off modes as compared to countertop microwave-only units. Thus, DOE determined that the measures it is adopting in today's interim final rule will provide representative measures of standby mode and off mode energy use in countertop and over-the-range configurations of microwave ovens and combination microwave ovens, and is not providing an exclusion for over-the-range units in the definition of covered products. Differences in energy use in these modes between countertop and over-the-range configurations would be evaluated as part of the energy conservation standards rulemaking addressing standby mode and off mode for microwave ovens.

#### *B. Effective Date for the Test Procedure and Date on Which Use of the Test Procedure Would Be Required*

The effective date of the standby and off mode test procedures for microwave ovens is 30 days after the date of publication of today's interim final rule. However, DOE's amended test procedure regulations codified in the CFR clarify that the procedures and calculations adopted in today's interim final rule need not be performed to determine compliance with energy conservation standards, until compliance with any final rule establishing amended energy conservation standards for microwave ovens in standby mode and off mode is required. However, the standby mode and off mode energy consumption test procedures would need to be used by manufacturers for making any representations on standby and off mode power consumption. Specifically, clarification is provided that, as of 180 days after publication of today's interim final rule, any representations as to the standby mode and off mode energy consumption of the products that are the subject of this rulemaking would need to be based upon results generated under the applicable provisions of this test procedure. (42 U.S.C. 6293(c)(2)) In addition, in order to ensure that the amended test procedure adequately addresses the EISA 2007 requirement to consider the most recent version of IEC Standard 62301, and recognizing that the IEC issued IEC Standard 62301 (Second Edition) in January of 2011, DOE is issuing this microwave oven test procedure as an interim final rule and offering an additional 180-day comment period to consider whether any changes should be made to this interim final rule in light of publication of IEC Standard 62301 (Second Edition). DOE will consider these comments and, to the

extent necessary, publish a final rulemaking incorporating any changes.

Whirlpool recommended a minimum 3-year lead time between the issue date of a final rule and the compliance date, stating that this time period is necessary to allow for adequate development, testing, and introduction of the new electronic controls that will likely be needed to meet the requirements. (Whirlpool, No. 18 at p. 5) Although Whirlpool did not specify in its comments whether the dates referred to corresponded to the test procedure or energy conservation standards rulemaking, DOE notes that the amended test procedure in today's interim final rule need not be performed by manufacturers until the compliance date of any amended energy conservation standards for microwave ovens addressing standby mode and off mode energy use.

AHAM requested clarification regarding representations of energy use of a microwave oven model on the retail packaging. (AHAM, Public Meeting Transcript, No. 26 at pp. 59–61) As noted above, as of 180 days after publication of today's interim final rule, any representations as to the standby mode and off mode energy consumption of the products that are the subject of this rulemaking would need to be based upon results generated under the applicable provisions of this test procedure. Such representations include those made in writing, including on a label, and in any broadcast advertisement. (42 U.S.C. 6293(c)(1)(B)) Because the provisions adopted in today's interim final rule address microwave oven standby mode and off mode energy use, and because DOE is not adopting measures addressing active mode energy use, representations as to active mode energy use (e.g., the wattage of the product in cooking mode) are not subject to the requirements of 42 U.S.C. 6293(c)(2).

### C. Measures of Energy Consumption

Historically, DOE's microwave oven test procedure provided for the calculation of several measures of energy consumption, including cooking efficiency, energy factor (EF), and annual energy consumption, and DOE's rulemaking analyses have used EF as the energy conservation metric for microwave ovens.<sup>5</sup>

A number of interested parties provided input on the integration of

<sup>5</sup> DOE previously defined microwave oven EF in 10 CFR 430.23(i)(2) as the ratio of (Annual Useful Cooking Energy Output/Annual Total Energy Consumption), which was equivalent to microwave cooking efficiency (Test Energy Output/Test Energy Consumption).

standby and off mode test procedures in response to the October 2008 TP NOPR, in which DOE proposed separate metrics (average standby mode power ( $P_{SB}$ ) in watts (W) and average off mode power ( $P_{OFF}$ ) in W, distinct from EF) to measure standby mode and off mode power given the measurement variability in the active mode test procedure and related concerns. 73 FR 62134, 62139 (Oct. 17, 2008).

DOE addressed the issues with the cooking efficiency measurement in the July 2010 TP Final Rule and notice announcing a public meeting to discuss the development of new active mode test procedure. 75 FR 42579 (July 22, 2010) and 75 FR 42611 (July 22, 2010), respectively. DOE proposed only to establish the test procedure for microwave ovens to address standby mode and off mode energy consumption. 75 FR 42612, 42618. However, DOE also requested consumer usage data on representative food loads, as well as data indicating how changes to the test load would affect the measured EF and on the repeatability of such test results for consideration in an active mode test procedure rulemaking. *Id.*

NEEA commented that, although an energy efficiency descriptor for standby mode and/or off mode and a separate energy efficiency descriptor for active cooking mode for microwave ovens is acceptable, it is not strongly supportive of that approach. NEEA stated that it is not troubled by the possibility that standby energy use could reverse the efficiency rankings of some products if a combined active and standby mode energy use descriptor were used. According to NEEA, if standby energy use is a large fraction of a product's annual energy use, then the standby energy's weight in the calculation of an annual energy use descriptor should be relatively large. NEEA also stated that if cooking efficiency results are not meaningful for microwave ovens, then this issue should be addressed in the active mode test procedure and energy conservation standards rulemakings. However, NEEA further stated that the current microwave descriptor is an EF metric, and that the most appropriate measure of standby and off mode energy consumption is annual energy use. For this reason, NEEA commented that not combining these two measures of efficiency is the simplest way to proceed with the microwave oven test procedure rulemaking, and therefore, NEEA accepts DOE's proposal for separate metrics for active mode and standby and off mode energy use. (NEEA, No. 16 at pp. 1–2).

AHAM, GE, and Whirlpool commented that they are unaware of any existing test procedures for measuring active mode energy consumption that are repeatable and reproducible. (AHAM, No. 19 at p. 6; AHAM, Public Meeting Transcript, No. 26 at pp. 58–59; GE, Public Meeting Transcript, No. 26 at p. 61; Whirlpool, No. 18 at p. 2) AHAM also stated that it is unaware of any existing test procedure that has successfully incorporated actual food loads, and if DOE decides to move forward with an active mode test procedure, it should collect data on food loads. Several interested parties provided comments on the methods by which active mode could be tested. (AHAM, No. 19 at p. 6; Whirlpool, No. 18 at p. 2; NRDC, No. 21 at pp. 1–2).

DOE acknowledges these comments, and notes that the absence of active mode provisions results in a *de facto* separate energy use descriptor for microwave oven standby mode and off mode energy use. The consideration of active mode provisions, including a representative food load, is outside the scope of today's interim final rule, which is addressing only standby mode and off mode energy use. DOE determined it would not be feasible to develop such active mode provisions in a time frame that would allow it to consider an integrated metric for this rulemaking. DOE will consider these comments separately as part of an active mode test procedure rulemaking for microwave ovens, which DOE announced it was considering in the notice of public meeting published in the **Federal Register** on July 22, 2010. 75 FR 42611.

### D. Incorporating by Reference IEC Standard 62301 (First Edition) for Measuring Standby Mode and Off Mode Power in Microwave Ovens

EPCA, as amended by EISA 2007, requires that DOE consider the most current versions of IEC Standards 62301 and 62087 when amending test procedures to include standby mode and off mode energy consumption.<sup>6</sup> (42 U.S.C. 6295(gg)(2)(A))

DOE noted in the October 2008 TP NOPR that IEC Standard 62301 (First

<sup>6</sup> DOE 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. 73 FR 62134, 62139 (Oct. 17, 2008).

Edition) 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. 73 FR 62134, 62139–41 (Oct. 17, 2008). The July 2010 TP SNO PR did not affect DOE's proposal of the clauses from sections 4 and 5 of IEC Standard 62301 (First Edition) (*i.e.*, paragraphs 4.2, 4.4, 4.5, 5.1 (Note 1), and 5.3) identified in the October 2008 TP NOPR, but proposed to incorporate by reference an additional paragraph of IEC Standard 62301 (First Edition) in response to comments. 75 FR 42612, 42618–19.

Specifically, DOE stated in the July 2010 TP SNO PR that incorporating paragraph 5.2, "Selection and preparation of appliance or equipment," of IEC Standard 62301 (First Edition) provides clarification to the installation requirements for standby mode and off mode energy consumption testing. DOE also stated that paragraph 5.2 of IEC Standard 62301 (First Edition) provides additional guidance regarding specifications for test setup that would result in a measure of standby and off mode energy consumption that best replicates actual consumer usage. Therefore, DOE proposed in the July 2010 TP SNO PR to incorporate by reference paragraph 5.2 of IEC Standard 62301 (First Edition). 75 FR 42612, 42619.

DOE also noted in the July 2010 TP SNO PR that paragraph 4.3 of IEC Standard 62301 (First Edition) specifies the electrical supply requirements, stating that "where this standard is referenced by an external standard or regulation that specifies a test voltage and frequency, the test voltage and frequency so defined. Where the test voltage and frequency are not defined by an external standard, the test voltage and test frequency shall be \* \* \* 115 volts (V)  $\pm$  1 percent and 60 Hz  $\pm$  1 percent for North America. In addition, paragraph 4.3 of IEC Standard 62301 (First Edition) specifies that some single phase voltages can be double the nominal voltage specified for that region, which would result in a voltage requirement of 230V  $\pm$  1 percent for North America. DOE stated in the July 2010 TP SNO PR that it believes that the accuracy of the electrical supply, including voltage and frequency, specified in IEC Standard 62301 (First Edition) are generally recognized as suitable for producing robust standby and off mode power measurements in microwave ovens. However, DOE conducted a product literature review to analyze the electrical supply requirements for microwave ovens available on the U.S. market and

determined that all microwave ovens specify a rated voltage of 120V or 240V (for a small number of combination microwave ovens) and a frequency of 60 Hertz (Hz). For this reason, DOE proposed in the July 2010 TP SNO PR to specify electrical supply requirements of 120/240 V  $\pm$  1 percent and 60 Hz  $\pm$  1 percent in section 2.2.1 of the DOE microwave oven test procedure. As noted in paragraph 4.3 of IEC Standard 62301 (First Edition), the proposed voltage requirement of 120/240 V for standby and off mode testing would supersede the requirement of 115/230 V specified in IEC Standard 62301 (First Edition). 75 FR 42612, 42619.

As discussed above in section III.A, because DOE tentatively concluded in the July 2010 TP SNO PR that the operation in standby and off mode is the same for microwave-only units, microwave ovens with thermal elements only, and combination microwave ovens, DOE proposed that the same test procedure amendments for standby and off mode testing discussed in this section be used for all of these product types. 75 FR 42612, 42620.

DOE received comments from interested parties regarding the consideration of IEC Standard 62301 (First Edition) as the most current version according to the EPCA requirement. (42 U.S.C. 6295(gg)(2)(A)) NRDC supports the incorporation of IEC Standard 62301 (without specification of the version) into the regulations and believes this version is adequate for measuring the standby mode and off mode power of microwave ovens. (NRDC, No. 21 at p. 2) NEEA stated that it supports DOE's use of the most current version of IEC Standard 62301 to the maximum extent possible, especially for definitions and measurement protocols. NEEA commented that it agrees that products that are sold into such a broad variety of international markets should be subject to consistent testing. NEEA also stated, however, that DOE does not make use of the guidance provided in the annexes in IEC Standard 62301, and that DOE should be as specific as possible in adopting or incorporating by reference sections of this IEC standard. (NEEA, No. 16 at p. 3)

AHAM and Whirlpool stated that DOE should use the provisions from the then most recent draft version of IEC Standard 62301 (Second Edition)—IEC Standard 62301 (FDIS)—for optimum international harmonization and to decrease test burden. (AHAM, No. 19 at p. 3, Whirlpool, No. 18 at p. 3) According to AHAM, microwave oven manufacturers build these products for worldwide distribution, requiring that

manufacturers have the ability to build one microwave for distribution everywhere. AHAM commented that, while it supports DOE's proposals regarding measurement of standby and off modes, DOE should reference IEC Standard 62301 (FDIS) instead of IEC Standard 62301 (First Edition) or IEC Standard 62301 (CDV), and that IEC Standard 62301 (FDIS) would soon be publicly available and formally adopted by IEC. AHAM stated that the modes and the definitions in the CDV and in the FDIS are essentially the same, but that IEC Standard 62301 (FDIS) contains many new sections that produce more accurate testing and measurements, including new or expanded sections on measurement of power uncertainty, crest factor, power measurement frequency response, sampling methods, average reading methods for non-cyclic loads, and instrument measurement methods. AHAM stated that these provisions are critical for third-party testing and verification testing of the very small amounts of energy use in standby mode. According to AHAM, all other governmental bodies that consider IEC standards are able to reference an FDIS version in their regulations because only grammatical corrections can be made between the FDIS stage and the final version. AHAM noted that IEC Standard 62301 (FDIS) will have to go out to committee members for a vote, but having passed at the CDV stage, AHAM believes IEC Standard 62301 (FDIS) will garner the necessary number of votes to be issued. AHAM further stated that if DOE decides not to incorporate IEC Standard 62301 (FDIS) by reference, it should use its language in full. AHAM does not support incorporation by reference of IEC Standard 62301 (First Edition) combined with only some provisions from IEC Standard 62301 (CDV). AHAM commented that, for example, definitions from IEC Standard 62301 (CDV) do not have the same meaning when combined with provisions from IEC Standard 62301 (First Edition), and that definitions for network mode are not provided in IEC Standard 62301 (First Edition). Finally, AHAM stated that, if DOE chooses neither to incorporate the language of IEC Standard 62301 (FDIS) by reference nor to use its language in full, DOE should incorporate by reference or use the full language of IEC Standard 62301 (CDV). (AHAM, No. 19 at p. 3; AHAM, Public Meeting Transcript, No. 26 at pp. 41–45, 47–49).

IEC published the final version of IEC Standard 62301 (Second Edition) on January 27, 2011. Therefore, the second



edition is now available for DOE's consideration or incorporation by reference. DOE is aware that there are significant differences between IEC Standard 62301 (First Edition) and IEC Standard 62301 (FDIS), which was the latest draft version of IEC Standard 62301 (Second Edition) available during the drafting of this interim final rule. For example, IEC Standard 62301 (FDIS) clarifies certain provisions, such as the definition of "standby mode" and "off mode" to allow for the measurement of multiple standby power modes. DOE notes that other significant changes in the methodology were first introduced only at the IEC Standard 62301 (FDIS) stage. These changes have not been the subject of significant comment from interested parties, nor has DOE had the opportunity to conduct a thorough analysis of those provisions. Consequently, the merits of these latest changes have not been fully vetted to demonstrate that they are preferable to the existing methodological provisions in the current version of the IEC standard.

For the reasons discussed in section III.E, DOE did narrowly consider the language from IEC Standard 62301 (FDIS) for mode definitions to address specific concerns raised by interested parties. Given the pending statutory deadline for issuance of a microwave oven standard and the recent adoption of IEC Standard 62301 (Second Edition), DOE has decided to base the test procedure amendments it is adopting in today's interim final rule (other than the mode definitions, which are discussed in section III.E) on the provisions of IEC Standard 62301 (First Edition), but to seek comment on the merits of adopting additional provisions of IEC Standard 62301 (Second Edition).

As noted above, the July 2010 TP SNOPIR proposed to incorporate by reference the clauses from sections 4 and 5 of IEC Standard 62301 (First Edition) as proposed in the October 2008 TP NOPR, along with paragraph 5.2. 75 FR 42612, 42618–19. AHAM commented that it supports DOE's proposal to incorporate by reference the electrical supply requirements in paragraph 4.3 and the testing conditions in paragraph 5.2 of IEC Standard 62301 (without specification of the version of this IEC standard). (AHAM, No. 19 at pp. 3–4; AHAM, Public Meeting Transcript, No. 26 at pp. 66, 71–73) AHAM further stated that, in accordance with paragraph 5.2 of IEC Standard 62301 (FDIS), the appliance should be tested at factory or "default" settings, and that where there are no indications for such setting, the appliance should be tested as shipped.

(AHAM, No. 19 at p. 4) ACEEE and the California Utilities objected to the proposal to test standby power at the factory or "default" settings. ACEEE asserted that it would allow the potential for "gaming," by which manufacturers could ship products with settings that use minimal power that consumers could easily switch out of and that therefore these settings would not be representative of typical use. The California Utilities recommended that DOE not incorporate paragraph 5.2 of IEC Standard 62301 because, according to them, there are no data indicating that factory default modes are uniform or typically used by consumers. ACEEE and the California Utilities stated that DOE should require products to be set up for testing with the settings that produce the highest standby power consumption, ensuring that products in the field do not consume more standby power than the tested value. (ACEEE/ASAP, No. 20 at p. 1; California Utilities, No. 17 at p. 2) NEEA stated that section 5.3.1 of IEC Standard 62301 is explicit with regard to getting a repeatable measurement of average power over an extended time period and minimum number of what NEEA termed as "instability cycles," and that the procedures in section 5 and additional information in annexes A and B of IEC Standard 62301 would be adequate for testing microwave oven standby power, as well as that of most other products. NEEA acknowledged the occasional need for specific testing guidance. According to NEEA, DOE might require the highest display mode power setting to be used during standby measurement, and if DOE does this for one product type, it should impose the same requirement for most other products. In cases where there is only one display mode, NEEA stated that this is not an issue, but for products in which display brightness and metrics can be adjusted by the consumer for other than very short-term use, the highest energy use mode should be tested. NEEA further stated that if these functions automatically revert to a lower power mode in a short time (*i.e.*, less than one or two minutes), or the functions do not have a higher power consumption mode, then NEEA would support testing in "as-shipped" or "normal" mode. (NEEA, No. 16 at pp. 2–3)

In response, DOE first clarifies that, although it inadvertently stated in the July 2010 TP SNOPIR that it was proposing to incorporate by reference two additional clauses from IEC Standard 62301 (First Edition) as compared to the provisions it proposed to incorporate by reference in the

October 2008 TP NOPR, it in fact only proposed regulatory language to additionally incorporate by reference paragraph 5.2 in the July 2010 TP SNOPIR along with the paragraphs proposed to be incorporated by reference in the October 2008 TP NOPR. In the July 2010 TP SNOPIR, DOE also considered incorporating by reference paragraph 4.3 of IEC Standard 62301 (First Edition), but instead proposed voltage requirements that would supersede any requirements that would be imposed by the IEC Standard 62301 (First Edition) provisions. 75 FR 42612, 42619–20.

In considering testing conditions, DOE notes that its test procedures are developed to measure representative energy use for the typical consumer and cannot capture all possible consumer actions and appliance usage patterns that might increase energy use. For example, certain products featuring a display power-down may allow consumers to alter the display settings to increase the amount of time in the high-power state, or to make the high-power state permanent. However, DOE believes in the absence of information indicating otherwise that the typical consumer will not alter the standard or default settings. DOE also did not receive data to support a determination that standby and off mode power measurements made at the highest power settings would be more representative of actual consumer use than measurements using the default settings. Thus, in today's interim final rule, DOE is incorporating by reference section 5.2 of IEC Standard 62301 (First Edition), with the stipulation that standby mode and off mode measurements be made using the "default" or "as-shipped" settings in the absence of specific manufacturer instructions.

DOE did not receive comments on the suitability of incorporating in its microwave oven test procedure the other specific paragraphs for testing conditions and methods from IEC Standard 62301 (First Edition) that were proposed in the July 2010 TP SNOPIR. In the absence of any comments objecting to those specific paragraphs, and for the reasons discussed above relating to the current version of IEC Standard 62301, DOE is adopting in today's interim final rule the provisions from IEC Standard 62301 (First Edition) that were proposed in the July 2010 TP SNOPIR (*i.e.*, paragraphs 4.2, 4.4, 4.5, 5.1 (Note 1), and 5.3), along with paragraph 5.2 of IEC Standard 62301 (First Edition).

*E. Definitions of "Active Mode," "Standby Mode," and "Off Mode"*

DOE proposed using the EPCA definitions of "active mode," "standby mode," and "off mode" in 42 U.S.C. 6295(gg)(1)(A) in the October 2008 TP NOPR. As discussed in the October 2008 TP NOPR, 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, defrosting the load, or some combination of these. 73 FR 62134, 62141 (Oct. 17, 2008). DOE noted that a microwave oven with a continuously 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 to trigger re-energization of these components, would be considered capable of operation in standby mode but not off mode because activation of the higher-power state would be achieved by means of an internal sensor. DOE additionally clarified whether the presence of a manual power on-off switch would be considered to potentially put the microwave oven in standby mode or off mode. DOE noted 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. *Id.*

DOE stated in the July 2010 TP SNO PR that it believes the definitions of standby mode, off mode, and active mode provided in IEC Standard 62301 (CDV), which at that time was the latest draft version, expand upon the EPCA mode definitions and provide additional guidance as to what functions are associated with each mode. DOE also stated that the comments received by IEC on IEC Standard 62301 (CD2), and the resulting amended mode definitions proposed in IEC Standard 62301 (CDV), demonstrate significant participation of interested parties in the development of the best possible definitions. For these reasons, DOE proposed definitions of standby mode, off mode, and active mode based on the definitions provided in IEC Standard 62301 (CDV) in the July 2010 TP SNO PR. DOE stated that it believes that the mode definitions in the draft versions of IEC Standard 62301 (Second Edition) represent a substantial improvement over those in IEC Standard 62301 (First Edition), and

represent the best available definitions at this time as confirmed by the review and inputs from interested parties as part of the IEC rulemaking process. DOE also stated in the July 2010 TP SNO PR that it believes that the proposed definitions of standby, off, and active mode would be applied to microwave-only units, microwave ovens with only thermal elements, and combination microwave ovens. 75 FR 42612, 42620–21.

DOE proposed in the July 2010 TP SNO PR to define "standby mode" as the condition in which an energy-using product is connected to a mains power source and offers one or more of the following user oriented or protective functions which may persist for an indefinite time:<sup>7</sup> A remote switch (including a remote control), internal sensor, or timer to facilitate the activation of other modes (including activation or deactivation of active mode); and continuous functions, including information or status displays (including clocks) or sensor-based functions. 75 FR 42612, 42621.

DOE proposed in the July 2010 TP SNO PR an additional clarification for standby mode that continuous clock functions include a timer that operates continuously, provides regular scheduled tasks (*e.g.* switching), and may or may not be associated with a display. This definition was developed based on the definitions provided in IEC Standard 62301 (CDV), and expands upon the EPCA mode definitions to provide additional clarifications as to which functions are associated with each mode. Under this definition of standby mode, remote controls and low voltage power supplies for controls, switches, memories, and clocks would be considered as operating in standby mode. *Id.*

DOE proposed in the July 2010 TP SNO PR to define off mode as the condition in which the energy-using product is connected to a mains power source, is not providing any active or standby mode function, and may persist for an indefinite time.<sup>8</sup> Off mode would

<sup>7</sup> The actual language for the standby mode definition in IEC Standard 62301 CDV describes "\* \* \* user oriented or protective functions which usually persist" rather than "\* \* \* user oriented or protective functions which may persist for an indefinite time." DOE notes, however, that section 5.1 of IEC Standard 62301 CDV states that "a mode is considered persistent where the power level is constant or where there are several power levels that occur in a regular sequence for an indefinite period of time." DOE believes that the proposed language, which was originally included in IEC Standard 62301 CD2, encompasses the possible scenarios foreseen by section 5.1 of IEC Standard 62301 CDV without unnecessary specificity.

<sup>8</sup> As with the definition for standby mode, IEC Standard 62301 CDV qualifies off mode as one that

also include an indicator that shows the user only that the product is in the off position. Under this proposed definition, an energized LED or other indication that shows the user only that the product is in the off position would be considered part of off mode, provided that no other standby or active mode functions are energized. However, if any energy is consumed by the appliance in the presence of a one-way remote control, the unit would be considered to be operating in standby mode because the remote control would be used to deactivate other mode(s). Electrical leakage and any energy consumed for electrical noise reduction, which are not specifically categorized as standby power functions, would be indicative of off mode. 75 FR 42612, 42622.

As part of the July 2010 TP SNO PR, DOE examined the issue of how to classify a microwave oven that is plugged into the main power supply but is not consuming energy due to the presence of an on/off switch. DOE first reviewed the discussion provided in annex A of IEC Standard 62301 (CDV) and according to section A.2, disconnected mode is included as a mode definition because many products are removed by users from mains power sources for substantial periods of time. DOE interprets this condition to refer to the power cord being unplugged from the power source. Section A.2 further states that "[a] product may have several off modes or it may have no off mode. Switches on products that are labeled as power, on/off, or standby may not reflect the mode classification based on the actual functions active in that mode." Although this statement does not definitively establish a means by which to treat the presence of a power or on/off switch, DOE infers it to mean that products equipped with such switches can operate in off or standby mode(s) depending on what components may remain energized with the switch in the "off" position. However, the discussion is silent on whether activation of an on/off switch can place the product in disconnected mode. Considering the entirety of section A.2 in total, DOE concluded in the July 2010 TP SNO PR that the

"\* \* \* usually persists", rather than one that "\* \* \* may persist for an indefinite time." For the same reasons as discussed for standby mode, DOE is proposing the latter definition. In addition, the off mode definition in IEC Standard 62301 states it is not providing a network mode function. Since DOE is unaware of any microwave oven that incorporates a network function, such as reactivation via network command or network integrity communication, it is not proposing to include this language in the definition of off mode in today's SNO PR.

disconnected mode for microwave ovens would be associated only with the removal of the power cord from the power source. Based on this review and acknowledging that classification of an on/off switch as operating in off mode in the absence of other energy use associated with standby mode would encourage manufacturers to provide such an energy-saving feature, DOE revised its determination proposed in the October 2008 TP NOPR and tentatively concluded in the July 2010 TP SNOFR that zero energy consumption due to activation of an on/off switch would be indicative of off mode rather than a disconnected mode. *Id.*

In response to interested parties' question of whether testing would be required for a device with off mode capability even though there is no reporting requirement or standard, DOE noted, in the July 2010 TP SNOFR, that any representations as to the standby and off mode energy consumption for microwave ovens would need to be based upon results generated under the applicable provisions of the test procedure that is the subject of this rulemaking. 75 FR 42612, 42622–23.

Finally, DOE proposed in the July 2010 TP SNOFR to define active mode as the condition in which the energy-using product "is connected to a mains power source, has been activated, and provides one or more main functions," with the additional clarification that "delay start mode is a "one-off", user-initiated, short-duration function that is associated with an active mode." DOE noted that IEC Standard 62301 (CD2) provided additional clarification that "delay start mode is a one off user initiated short duration function that is associated with an active mode." IEC Standard 62301 (CDV) eliminated this clarification. In response to comments on IEC Standard 62301 (CD2) that led to IEC Standard 62301 (CDV), IEC stated, however, that delay start mode is a "one-off" function of limited duration, which suggests that IEC does not consider it as part of standby mode although no conclusion is made as to whether it would be considered part of active mode. 75 FR 42612, 42623.

DOE tentatively proposed in the July 2010 TP SNOFR to consider delay start mode as part of active mode because it is a condition of finite duration that is user-initiated and uniquely associated with a cooking cycle. DOE determined that cooking or warming food would be considered active mode functions as well.

DOE also noted that section 3.9 of IEC Standard 62301 (CDV) defines disconnected mode as "the status in

which all connections to mains power sources of the energy using product are removed or interrupted." IEC Standard 62301 (CDV) also adds a note that common terms such as "unplugged" or "cut off from mains" also describe this mode and that this mode is not part of the low power mode category. DOE stated in the July 2010 TP SNOFR that it believes that there would be no energy use in a "disconnected mode," and therefore did not propose a definition or testing methods for such a mode in the DOE test procedure for microwave ovens. *Id.*

The California Utilities and NRDC support DOE's proposal to adopt the definitions of active, standby, and off modes from IEC Standard 62301 (CDV). (California Utilities, No. 17 at p. 2; NRDC, No. 21 at p. 2) AHAM commented that the mode definitions in IEC Standard 62301 (CDV) and IEC Standard 62301 (FDIS) are not going to vary. AHAM initially stated that DOE should move forward using the definitions that are in IEC Standard 62301 (CDV), but later clarified its statements to recommend that DOE reference IEC Standard 62301 (FDIS) for the mode definitions. Whirlpool also stated that DOE should adopt mode definitions from IEC Standard 62301 (FDIS). (AHAM, No. 19 at p. 4; AHAM, Public Meeting Transcript, No. 26 at p. 45; Whirlpool, No. 18 at p. 3)

DOE has reviewed IEC Standard 62301 (FDIS) and anticipates that the newly finalized IEC Standard 62301 (Second Edition) defines the various modes differently than IEC Standard 62301 (First Edition). IEC Standard 62301 (FDIS) incorporates responses to comments from multiple national committees from member countries on several previous draft versions, and thus, DOE believes it provides the best available mode definitions. DOE has decided to consider the substance of the new operational mode definitions from the draft version IEC Standard 62301 (FDIS). DOE notes that the mode definitions in IEC Standard 62301 (FDIS) are substantively similar to those in the previous draft version (IEC Standard 62301 (CDV)), which were the subject of extensive comments from interested parties, both as noted above and during recent DOE test procedure rulemakings addressing standby mode and off mode energy use in other products (*i.e.*, clothes dryers and room air conditioners). In those instances, interested parties indicated general support for adopting the mode definitions provided in IEC Standard 62301 (CDV). Due to the effective equivalence of the mode definitions in IEC Standard 62301 (CDV) and IEC

Standard 62301 (FDIS), DOE believes the public comment support expressed for the mode definitions in IEC Standard 62301 (CDV) would extend to those in IEC Standard 62301 (FDIS).

AHAM commented that the definition of "standby mode" should include a requirement that all products will default to the product's standby mode as delivered from the factory. According to AHAM and Whirlpool, products may have provisions for the consumer to add or delete product functions that alter the as-shipped energy mode. AHAM stated that the power consumption in these user-selected modes may exceed the power consumption in the lowest power-consumption mode, and that the consumer must be informed as to how to make these selections and that their selection(s) would override the lowest power-consumption mode. (AHAM, No. 19 at p. 4; Whirlpool, No. 18 at p. 3) DOE notes that design and labeling requirements are outside the scope of this test procedure rulemaking, thus DOE is not adopting, in today's interim final rule, any measures specifying the default operation or provisions regarding consumer information, although potential design requirements may be considered in the microwave oven energy conservation standards rulemaking addressing standby mode and off mode energy use. DOE is, however, addressing the settings for standby mode and off mode testing in section III.F of today's interim final rule.

Whirlpool requested clarification on whether the use of an "Energy Save" pushbutton to enter a lower consumption state (such as by turning off a clock) is consistent with the definition of standby mode proposed by DOE, as allowed by the IEC Standard 62301 (FDIS) definition. Whirlpool stated it prefers harmonization wherever practicable. Whirlpool also questioned whether the switch to standby power could be automatic. (Whirlpool, No. 18 at p. 3) DOE agrees that such a pushbutton would be considered an internal sensor that would activate this lower consumption state, which could be considered either another standby mode or an off mode, depending on the components energized. As noted above, DOE is not addressing design requirements as part of this test procedure rulemaking. DOE will consider any such requirements for standby mode and off mode energy use as part of its energy conservation standards rulemaking for microwave ovens.

Whirlpool and AHAM commented that they do not support the inclusion of power consumed by one-way remote controls in the definition of standby

mode. (Whirlpool, No. 18 at p. 4; AHAM, No. 19 at p. 5) According to AHAM, although EPCA defines standby mode to include activation by remote control, one-way remotes do not meet the intent of the statute. AHAM and Whirlpool stated that a standard remote, when it powers a product “off”, actually powers the product down, not off, such that it can be turned on again via remote control, and therefore would be classified as consuming standby power. AHAM and Whirlpool contrasted that with a one-way remote that turns the product completely off such that it cannot be turned on again through the use of the remote. Thus, AHAM commented that a one-way remote does not put the product into standby mode and should not be incorporated into standby mode. AHAM noted that there are few, if any, one-way remotes in the United States, but AHAM stated that including one-way remotes as part of off mode rather than standby mode would encourage manufacturers to design products with them and could result in decreased energy use. (AHAM, No. 19 at p. 5; Whirlpool, No. 18 at p. 4)

DOE notes that the definition of standby mode proposed in the July 2010 TP SNOPR states that standby mode includes user-oriented or protective functions to facilitate the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, or timer. DOE believes that if the product is consuming energy to power an infrared sensor used to receive signals from a remote control (while not operating in the active mode), such a function would be considered part of standby mode, regardless of whether the remote is classified as “one-way” or “two-way,” because of the function to facilitate the deactivation of another mode by remote switch (including remote control), internal sensor, or timer. However, if a “one-way” remote control powers the product down, including turning off any infrared sensors to receive signals from a remote control, then the product would be operating in the off mode when it is powered down, given that no other standby mode functions within the product are energized.

AHAM also commented that DOE should consider additional provisions from paragraph 3.1 of IEC Standard 62301 (FDIS) that define functions broadly, within which the specific modes are defined. AHAM stated that such additional references are necessary to provide context for the mode definitions. (AHAM, Public Meeting Transcript, No. 26 at pp. 70–71) Paragraph 3.1 of IEC Standard 62301

(FDIS) defines a function as a predetermined operation undertaken by the energy-using product, and would be classified as: (1) A user-oriented secondary function (standby mode); (2) a network-related secondary function (network mode); (3) a primary function (active mode); and (4) other functions. DOE believes that the definitions of standby mode, off mode, and active mode in IEC Standard 62301 (FDIS) sufficiently describe all states of operation which are covered under the EPCA requirements in 42 U.S.C. 6295(gg). As discussed later in this section, DOE is not adopting provisions to measure energy use in network mode. Thus, DOE is not adopting language in today’s interim final rule from paragraph 3.1 of IEC Standard 62301 (FDIS).

DOE received several comments on the definition of off mode and the conditions under which a microwave oven would be considered to be in disconnected mode. The California Utilities agreed with DOE’s proposal that the disconnected mode for microwave ovens would be associated only with the removal of the power cord from the power source, and that zero energy consumption due to the activation of an on-off switch would be indicative of off mode rather than a disconnected mode. (California Utilities, No. 17 at p. 2) Whirlpool supported DOE’s proposed definition of off mode. (Whirlpool, No. 18 at p. 3) GE questioned whether DOE was aware of any studies or information on a 240 volt microwave oven with multiple energy feeds but one on-off switch in the circuitry. (GE, Public Meeting Transcript, No. 26 at p. 83) DOE is not aware of such information, but believes that the provisions it is adopting today for measuring standby mode and off mode energy use would be applicable to a 240 volt microwave oven, regardless of any action of an on-off switch. If, with the switch in the “off” position, any components as described in the definition of standby mode were energized, the microwave oven would be considered to be operating in standby mode.

AHAM commented that it agrees with DOE’s proposal that delay start mode should not be considered standby mode, and should instead be considered active mode. AHAM noted that the European Union (EU) also considers delay start mode part of active mode in its regulations. (AHAM, No. 19 at p. 5; AHAM, Public Meeting Transcript, No. 26 at p. 82)

After considering the most current version of IEC Standard 62301 (*i.e.*, the First Edition) and the draft version of

IEC Standard 62301 (*i.e.*, FDIS), DOE has concluded that the definitions of “standby mode,” “off mode,” and “active mode” provided in IEC Standard 62301 (FDIS) are the most useful, in that they expand upon the EPCA mode definitions and provide additional guidance as to which functions are associated with each mode. Therefore, DOE is adopting definitions of “standby mode,” “off mode,” and “active mode” based on the definitions provided in IEC Standard 62301 (FDIS), as follows:

- “Standby mode” means the product mode where the microwave oven is connected to a mains power source and offers one or more of the following user-oriented or protective functions which usually persist:

- To facilitate the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, or timer;

- Continuous function: information or status displays including clocks or sensor-based functions.

DOE is also adopting in its amendments to the test procedure the clarification, provided as a note accompanying the definition of standby mode in IEC Standard 62301 (FDIS), that a timer is a continuous clock function (which may or may not be associated with a display) that provides regular scheduled tasks (*e.g.* switching) and that operates on a continuous basis.

- “Off mode” means a product mode where the microwave oven is connected to a mains power source and is not providing any standby mode or active mode function and where the mode usually persists. An indicator that only shows the user that the product is in the off position is included within the classification of off mode.

DOE notes that the definition of off mode in IEC Standard 62301 (FDIS) also includes the qualification that it is not providing any network mode function. However, for the reasons discussed below DOE is not including a definition of network mode in the amended microwave oven test procedure, DOE did not include reference to network mode in the definition of off mode for today’s interim final rule.

- “Active mode(s)” means a product mode where the energy-using product is connected to a mains power source and at least one primary function is activated.

Multiple interested parties submitted comments on the possibility of defining an additional “network mode”. The California Utilities, NEEA, and the ACEEE/ASAP Comment commented that DOE should adopt a definition of network mode in the microwave oven

test procedure, (California Utilities, No. 17 at p. 2; NEEA, No. 16 at p. 2; ACEEE/ASAP Comment, No. 20 at p. 2) AHAM stated that, although there are not a sufficient number of products currently available on the market from which to gather data regarding network mode, DOE should define a network mode even if it cannot be measured, because leaving it out would hinder manufacturers' development of products with network mode capabilities in the future. In the event DOE decides to address network mode at that time, AHAM stated it would not support including network mode in standby or off mode. According to AHAM, network mode and the energy use associated with "smart" appliances should be treated as a distinct energy use that enhances electrical grid system efficiencies that save energy and reduce carbon emissions. (AHAM, No. 19 at p. 5; AHAM, Public Meeting Transcript, No. 26 at pp. 73–76) The California Utilities stated that manufacturers have noted that they are developing products with networking capability, and that DOE should include the IEC standard definition of network mode in the microwave oven test procedure. The California Utilities also commented that DOE should collect test data from manufacturers of network-equipped products and develop a test procedure that measures energy use in this mode consistently and appropriately. (California Utilities, No. 17 at p. 2) The ACEEE/ASAP Comment expressed concern that, without provisions in the microwave oven test procedure for network mode, manufacturers could develop products that are always in network mode and therefore could be considered to have no standby power consumption. The ACEEE/ASAP Comment also stated that energy use in network mode could be significant. (ACEEE/ASAP Comment, No. 20 at p. 2) NEEA stated that it was unlikely to be Congress' intent to exclude network mode when mandating DOE to establish test procedures and standards for standby mode and off mode energy use for a broad array of products. According to NEEA, even though very few products may have this mode or function built in (or operating) presently, there is no reason to leave this mode out in the test procedure rulemaking, especially since it would be straightforward to include based on the IEC Standard 62301 approach. NEEA commented that if a network mode microprocessor in a home appliance functions as it does in a number of other products, it will spend almost all of its time in its own standby mode and

almost no time in its active mode, placing network mode energy use in the same category as a clock or control circuit energy use. NEEA further commented that it is likely that the network mode processor(s) could significantly increase the standby energy use of many products, warranting its inclusion in the microwave oven test procedure. (NEEA, No. 16 at p. 2)

NRDC and Whirlpool do not support including a definition of network mode in the microwave oven test procedure at this time. NRDC stated that it is unaware of what network mode would entail for a microwave oven and that it is skeptical of its potential benefits. According to NRDC, microwave ovens are a convenience product that consumers generally want to use at a certain time when they want food heated quickly. Thus, NRDC stated, it is unlikely that the active mode function would be able to be delayed by a network mode function. NRDC further noted that network mode could be used to power down displays and other standby functions, but questioned whether this function would be accomplished by occupancy sensors or automatic power-down after a certain period of user inactivity. NRDC requested more data on network mode functions and potential benefits in microwave ovens. (NRDC, No. 21 at p. 2) Whirlpool stated that, although network mode will become vital with the future development of "Smart Grid" appliances, such products do not exist today outside of development laboratories. Whirlpool commented that DOE should retain this mode as separate and distinct from other modes, but that DOE should not adopt standards or test procedures for network mode until manufacturers have sufficient quantities of Smart Grid models in production to support comprehensive testing and measurement. (Whirlpool, No. 18 at p. 4)

Section 3.7 of IEC Standard 62301 (FDIS) also defines "network mode" as a mode category that includes "any product modes where the energy using product is connected to a mains power source and at least one network function is activated (such as reactivation via network command or network integrity communication), but where the primary function is not active." Section 3.7 of IEC Standard 62301 (FDIS) also provides a note, stating that "[w]here a network function is provided but is not active and/or not connected to a network, then this mode is not applicable. A network function could become active intermittently according to a fixed schedule or in response to a

network requirement. A 'network' in this context includes communication between two or more separate independently powered devices or products. A network does not include one or more controls which are dedicated to a single product. Network mode may include one or more standby functions."

DOE notes that, in the absence of data on the operation and functionality of network mode, it is unable to define appropriate testing conditions and procedures for accurately measuring the energy use of microwave ovens capable of functioning in network mode. This lack of data also prevents DOE from evaluating how these products will develop in the future. Also, because DOE does not have sufficient data on the operation and functionality of network mode, it is not making a determination as to whether network mode would be included as part of standby or active mode. DOE may consider amendments to the microwave oven test procedure when products capable of functioning in network mode are in production and commercially available. At that time, comprehensive analysis can determine appropriate testing conditions and procedures for accurately measuring network mode and energy use.

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

DOE noted in the October 2008 TP NOPR that, because IEC Standard 62301 (First Edition) 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 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 (First Edition) 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." 73 FR 62134, 62141 (Oct. 17, 2008). For the October 2008 TP NOPR, DOE investigated the possible regular sequences of power states for microwave ovens in order to propose clarifying language to IEC Standard 62301 (First Edition) that would provide accurate and repeatable test measurements. DOE's testing of standby power led it to propose the test period in cases in which the power is not stable

as “a 12-hour ± 30-second period” to assure comparable and valid results. *Id.* As part of the July 2010 TP SNOPIR, DOE investigated test methods to determine standby power over a shorter period than 12 hours. DOE first considered representing the average standby power over a 12-hour cycle by calculating a weighted average of power measurements at 18 different clock display times. This approach was discussed in detail in appendix 5B of the November 2007 ANOPIR technical support document (TSD). Using this method, the standby power consumption and line voltage are measured as the clock is cycled through all the possible digit combinations (in terms of active elements) and then a

regression analysis is performed to quantify the impact of the number of lit elements (by digit) and voltage on power consumption. The results were then integrated across the number of minutes that each active element combination is “on” through the course of the 12 hours. As noted in chapter 5 of the November 2007 ANOPIR TSD, the results for average standby power consumption using the methodology described above produced results that were within 1 to 2 percent of the 12-hour test results. 75 FR 42612, 42624. For the July 2010 TP SNOPIR, DOE also investigated whether a single 10-minute measurement period with a starting clock time of 3:33 would be a reasonable proxy for the 12-hour

standby power measurement in the event that power consumption is not stable. DOE analysis indicates that the proportion of time that each possible number of segments in a 7-segment LED display that are lit over the 10-minute time period from 3:33 to 3:42 is representative of the distribution of lit segments over a 12-hour period with an arbitrary starting time and would produce average standby power measurements comparable to those taken over 12 hours. Table 1 shows the comparison of average standby power measured for 11 units in DOE’s microwave oven test sample using the 18-point, and 10-minute methodologies as compared to the 12-hour test. *Id.*

TABLE 1—COMPARISON OF METHODOLOGIES FOR MEASURING MICROWAVE OVEN STANDBY POWER

Test unit	Display type	12-Hour method	18-Point method		10-Minute method	
		Standby watts*	Standby watts*	Percent difference	Standby watts*	Percent difference
1 .....	LCD .....	1.567	1.552	-0.99	1.592	1.60
2 .....	LCD .....	1.571	1.560	-0.70	1.554	-1.08
3 .....	LCD .....	1.812	1.812	0.03	1.801	-0.61
4 .....	LCD .....	1.490	1.475	-0.96	1.492	0.17
5 .....	LCD .....	1.859	1.847	-0.60	1.874	0.84
6 .....	LCD .....	3.788	3.798	0.26	3.818	0.81
7 .....	LCD .....	3.641	3.642	0.04	3.606	-0.95
8 .....	LED .....	1.802	1.796	-0.35	1.797	-0.32
9 .....	LED .....	1.825	1.820	-0.25	1.816	-0.47
10 .....	LED .....	3.185	3.177	-0.27	3.290	** 3.28
11 .....	VFD .....	5.600	5.611	0.20	5.607	0.13

\* Standby power measurements are scaled to normalize the supply power to 120.0 volts.

\*\* For this test, the supply power was significantly higher than 120.0 volts. Therefore, DOE believes the scaling of the measured standby power and thus the percentage difference from the 12-hour standby power measurement are not valid.

Within DOE’s limited test sample, the average standby power measured over the specified 10-minute test period agrees within ±2 percent with average standby power measured over 12 hours. Therefore, DOE tentatively concluded in the July 2010 TP SNOPIR that a 10-minute measurement period with a starting time of 3:33 provides a valid measure of standby energy use for those microwave ovens with power consumption varying according to the time displayed on the clock. DOE proposed in the July 2010 TP SNOPIR to specify that, for microwave ovens for which standby power consumption is not stable, the clock display shall be set at 3:33 at the conclusion of the stabilization period and the test period shall be 10 minutes. *Id.*

DOE noted in the July 2010 TP SNOPIR that both the 18-point and 10-minute approaches for accelerated standby testing offer the possibility that a microwave oven could be programmed to alter its behavior when such a test is detected in order to minimize measured

standby power consumption. For example, a microwave oven could be programmed to turn off its cooking sensors and/or dim its display only during the display times associated with the 18 measurement points or between display times 3:33 and 3:42. 75 FR 42612, 42624–25.

DOE stated in the July 2010 TP SNOPIR that the microwave oven test procedure is designed to provide a measurement representative of average consumer use of the product, even if the test conditions and procedures may not be identical to average consumer use (*for example*, specified display times). DOE’s proposal reflected the statutory requirement, and the Department’s longstanding view, that the overall objective of the test procedure is to measure the product’s energy consumption during a representative average use cycle or period of use. 42 U.S.C. 6293(b)(3). Further, the test procedure requires specific conditions during testing that are designed to ensure repeatability while avoiding

excessive testing burdens. Although certain test conditions specified in the test procedure may deviate from representative use, such deviations are carefully designed and circumscribed in order to attain an overall calculated measurement of the energy consumption during representative use. Thus, it is—and has always been—DOE’s view that products should not be designed such that the energy consumption drops during test condition settings in ways that would bias the overall measurement to make it unrepresentative of average consumer use. DOE proposed in the July 2010 TP SNOPIR to address this issue through this test procedure and related certification requirements. Accordingly, DOE’s proposed language both (1) made explicit in the regulatory text the Department’s long held interpretation that the purpose of the test procedure is to measure representative use and (2) proposed a specific mechanism—the waiver process—as a mandatory requirement for all products for which

the test procedure would not properly capture the energy consumption during representative use. The language did not identify specific product characteristics that could make the test procedure unsuitable for testing certain products (e.g. modification of operation based on display time) but rather described such characteristics generally, in order to assure that the language can apply to any potential features that would yield measurements unrepresentative of the product's energy consumption during a representative use cycle.

AHAM commented that DOE's proposal should be clarified to state that the test is to be started when the display is at its lowest power consumption mode. (AHAM, No. 19 at p. 5) Initially, AHAM suggested that the clock display should be set 5 or 10 minutes earlier than 3:33, then wait until the display time reaches 3:33 to start the test period. According to AHAM, this would allow the clock display, which may get brighter when the time is set, to dim and thus reach its low power state before the standby power measurement is made. AHAM stated that this approach would be more representative of actual consumer use. (AHAM, Public Meeting Transcript, No. 26 at pp. 91–93) AHAM clarified its comments to state that the stabilization period should be conditions-based, meaning the clock display would be set to 3:33 minus whatever time it takes for that product to reach its stabilization period. According to AHAM, such an approach would allow each manufacturer to determine the amount of time to subtract with minimal additional test burden, and would produce the most repeatable and reproducible results. AHAM noted that the topic of test stabilization periods is covered in IEC Standard 62301 (FDIS) section 5.3.1 on sampling methods. That section of IEC Standard 62301 (FDIS) is specifically meant to deal with the issue of noncyclical loads or activities where the power is not stable over a period of time. (AHAM, No. 19 at pp. 5–6; AHAM, Public Meeting Transcript, No. 26 at pp. 94–95) Whirlpool commented that it supports a standby power test cycle which after a period of stabilization, begins at a clock display time of 3:33 and extends for 10 minutes. Whirlpool further suggested allowing a 30-minute stabilization period by setting the clock display at 3:03 and initiating the test measurement 30 minutes later (at 3:33), then measuring energy consumption for the 10-minute period. (Whirlpool, No. 18 at p. 4) In addition, AHAM and Whirlpool stated that controls which sense the test procedure

and behave differently under those circumstances are not consistent with the intent of the test procedure.

According to Whirlpool, such controls should either not be allowed or should require a waiver under which such different behavior is offset. AHAM and Whirlpool requested that, in the event that waivers are sought, DOE should develop a more expedient means of addressing and issuing waivers, as the current process is too long and cumbersome. AHAM further stated that the length of the waiver process delays time to market. (AHAM, No. 19 at p. 6; AHAM, Public Meeting Transcript, No. 26 at pp. 97–98; Whirlpool, No. 18 at p. 4)

The California Utilities commented that it supports the proposed clarification to the test procedure in which DOE specifies a test period of 10 minutes with an initial clock display time of 3:33 for microwave ovens. However, it asked DOE to require this 10-minute test procedure for all microwave ovens, irrespective of whether the standby power consumption is stable. According to the California Utilities, DOE has not clearly defined what constitutes an "unstable" standby power consumption. The California Utilities stated that, to ensure testing and reporting consistency, and in the absence of test data, DOE should require a test cycle of 10 minutes for all microwave ovens. The California Utilities asserted that this clarification that all products be tested for 10 minutes would not substantially add to manufacturer test burden. (California Utilities, No. 17 at pp. 2–3)

NRDC stated that it prefers the 12-hour test cycle methodology, but is open to considering the use of the 10-minute method, as it produces results that are accurate within 2 percent and provides a significantly smaller testing burden for manufacturers. NRDC expressed concern that the 10-minute method does not account for how quickly a microwave oven reaches the "stabilized" standby state, and that the term "stabilization period" is not well defined and needs to be further clarified. NRDC further commented that, if the 10-minute method is used, a maximum time should be allowed for stabilization, to encourage products to reach their lowest power mode quickly. NRDC also stated that it was concerned that, despite the waiver process proposed by DOE, the 10-minute method is inherently more vulnerable to gaming than the 12-hour test cycle. NRDC did not provide suggestions on what measures beyond the proposed waiver could be instated to prevent gaming, but it stated that the concern about potential

gaming is secondary to the stabilization concern, and that NRDC would support the 10-minute method as long as the stabilization period is addressed. (NRDC, No. 21 at p. 2)

Section 5.3.1 of IEC Standard 62301 (First Edition) states that, a mode is stable if the measured power varies less than 5 percent over a minimum 5-minute period, after which the power is measured after an additional period of at least 5 minutes. Thus, these provisions would require a total test time of at least 10 minutes. Therefore, DOE believes it is clear what constitutes the test for whether the standby power consumption is stable or unstable.

Upon review of comments from interested parties, DOE concludes that a 12-hour test requirement would represent a significant burden to manufacturers, and that the alternative 10-minute method would minimize additional test burden. DOE agrees, however, that certain microwave oven displays may enter a higher-power state for a short period after the display time is set, after which the power may drop to a lower level that is more representative of actual use. Thus, DOE determined that the display time should be set in advance of the time required at the start of the measurement period, and that a stabilization period in the interim would allow the microwave oven to enter a lower-power state prior to the standby power measurement. DOE does not believe, however, that allowing the manufacturers to individually determine the stabilization period, would optimize the accuracy and repeatability of the test procedure. Based on DOE's testing, which showed that all microwave ovens in its test sample dropped to the lower power state in less than 10 minutes and the fact that a stabilization period of 30 minutes would effectively double the total test time, DOE believes that a requirement to set the display time to 3:23 and allowing a 10-minute stabilization period prior to a 10-minute measurement period would best balance the need for reproducibility of the test procedure with the burden placed on manufacturers.

DOE notes that the microwave oven test procedure is designed to provide an energy efficiency measurement consistent with representative average consumer use of these products, even if the test conditions and/or procedures may not themselves all be representative of average consumer use (e.g., testing with a display of only 3:33 to 3:42). DOE's amendments reflect the statutory requirement, and the Department's longstanding view, that the overall objective of the test procedure is to

measure the product's energy consumption during a representative average use cycle or period of use. (42 U.S.C. 6293(b)(3)) Further, the test procedure requires specific conditions during testing that are designed to ensure repeatability while avoiding excessive testing burdens. Although certain test conditions specified in the test procedure may deviate from representative use, such deviations are carefully designed and circumscribed in order to attain an overall calculated measurement of the energy consumption during representative use. Thus, it is—and has always been—DOE's view that products should not be designed such that the energy consumption drops during test condition settings in ways that would bias the overall measurement, thereby making it unrepresentative of average consumer use. If a manufacturer incorporates a power-saving mode as part of the appliance's routine operation, DOE's test procedure would produce a representative measure of average consumer use if the unit powered down during the 10-minute test period for the same percentage of time that such powering down would be expected to occur during a typical 12-hour period, and thus, such operation would be permissible. It has been the Department's long-held interpretation that the purpose of the test procedure is to measure representative use. Ultimately, if DOE identifies a broad pattern of behavior which has the effect of circumventing its test procedure provisions, the Department may consider reopening the microwave oven test procedure for further rulemaking. DOE also notes it has made improvements in its response time to waiver requests, and will continue to strive for increased efficiency in this regard.

#### G. Other Issues

DOE proposed in the October 2008 TP NOPR to change the value of a conversion factor used in the microwave oven active mode calculations to correct an erroneous value. 73 FR 62134, 62141–42 (Oct. 17, 2008). As noted in the July 2010 TP SNO PR (75 FR 42612, 42625), the active mode provisions were removed from the microwave oven test procedure in the July 2010 TP Final Rule. Thus, the need for the technical correction is obviated and no such amendments are adopted in today's interim final rule.

#### H. Compliance With Other EPCA Requirements

Section 323(b)(3) of EPCA requires that test procedures 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. Test procedures must also not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)).

DOE stated in the October 2008 TP NOPR that it believed that the incorporation of clauses regarding test conditions and methods in IEC Standard 62301 (First Edition), along with the modifications described above, would satisfy this requirement. DOE also noted that the proposed amendments to the DOE test procedure incorporate a test standard that is widely used and accepted internationally to measure power use in standby mode and off mode. Based on DOE testing and analysis of IEC Standard 62301 (First Edition), DOE determined in the October 2008 TP NOPR 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, as well as for when the measured power is unstable (*i.e.*, varies over a cycle). DOE also stated that because the test methods and equipment that the amendments would require for measuring standby power in microwave ovens do not differ substantially from the test methods and equipment required under the previous test procedure, manufacturers would not be required to make a major investment in test facilities and new equipment. For these reasons, DOE concluded in the October 2008 TP NOPR 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. 73 FR 62134, 62142 (Oct. 17, 2008).

Additionally, for reasons similar to those stated above, DOE stated in the July 2010 TP SNO PR that the proposed amendments to measure the standby and off mode power consumption of microwave ovens would not require manufacturers to make major investments in test facilities and new equipment, and would not be unduly burdensome to conduct. DOE proposed a significantly shorter test duration than the 12 hours that was proposed in the October 2008 TP NOPR—a 5-minute stabilization period and a 5-minute or 10-minute test time, depending on whether the standby power

consumption is stable. DOE stated in the July 2010 TP SNO PR that it believes that the number of units to be tested, according to the sampling requirements in 10 CFR 430.24(i), is reasonable and, along with the shorter test duration, would not substantially add to manufacturer test burden and would allow manufacturers that conduct quality assurance testing on the production line to continue to do so. 75 FR 42612, 42625.

DOE received comments on manufacturer test burden as discussed above in section III.F, and has determined that, although the test duration is slightly longer than that proposed in the July 2010 TP SNO PR because the initial stabilization period is 10 minutes rather than 5 minutes, the methodology adopted in today's interim final rule is otherwise largely similar and will not be unduly burdensome for manufacturers. DOE also continues to believe that the provisions to measure standby mode and off mode energy use would not require manufacturers to make major investments in test facilities and new equipment.

#### 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 interim final rule under the provisions of the Regulatory



Flexibility Act and the procedures and policies published on February 19, 2003.

In conducting this review, DOE first determined the potential number of affected small entities. The Small Business Administration (SBA) considers an entity to be a small business if, together with its affiliates, it employs fewer than the threshold number of workers specified in 13 CFR part 121 according to the North American Industry Classification System (NAICS) codes. The SBA's Table of Size Standards is available at: [http://www.sba.gov/idc/groups/public/documents/sba\\_homepage/serv\\_sstd\\_tablepdf.pdf](http://www.sba.gov/idc/groups/public/documents/sba_homepage/serv_sstd_tablepdf.pdf). The threshold number for NAICS classification 335221, *Household Cooking Appliance Manufacturers*, which includes microwave oven manufacturers, is 750 employees. DOE surveyed the AHAM member directory to identify manufacturers of microwave ovens. In addition, as part of the appliance standards rulemaking, DOE asked interested parties and AHAM representatives within the microwave oven industry if they were aware of any small business manufacturers. DOE consulted publicly available data, purchased company reports from sources such as Dun & Bradstreet, and contacted manufacturers, where needed, to determine if they meet the SBA's definition of a small business manufacturing facility and have their manufacturing facilities located within the United States. Based on this analysis, DOE understands that only multinational companies with more than 750 employees, and their wholly owned subsidiaries, exist in this industry. As a result, DOE does not expect any small businesses to be impacted by the interim final rule.

For these reasons, DOE concludes that the interim final rule would not have a significant economic impact on a substantial number of small entities, and has sent a certification to this effect to the SBA. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking.

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

This rule contains a collection-of-information requirement subject to the Paperwork Reduction Act (PRA) which has been approved by OMB under control number 1910-1400. Public reporting burden for compliance reporting for energy and water conservation standards is estimated to average 30 hours per response, including the time for reviewing instructions, searching existing data

sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate—or any other aspect of this data collection, including suggestions for reducing the burden—to DOE (*see ADDRESSES*) or by e-mail to *Christine J. Kymn@omb.eop.gov*.

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

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

In this interim final rule, DOE is adopting 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 10 CFR part 1021, subpart D, paragraph A5. 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, 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 interim final rule and determined that it would not preempt State law and would not have a

substantial direct effect on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to the test procedures that are the subject of today's interim final rule. States can petition DOE for a waiver of such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297) 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 interim final 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 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 interim final 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 interim final 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 rule 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 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 significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use if the regulation is 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. The Administrator of OIRA also did not designate the interim final rule as a significant energy action. 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 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 interim final rule incorporates testing methods contained in sections 4

and 5 (paragraphs 4.2, 4.4, 4.5, 5.1 (Note 1), 5.2, and 5.3) of the commercial standard, IEC Standard 62301 (First Edition). 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 and will address any concerns when it publishes a response to the public comments on this interim final rule.

#### *M. Congressional Notification*

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

#### **V. Public Participation**

DOE will accept comments, data, and information regarding the interim final rule no later than the date provided in the **DATES** section at the beginning of this rule. Interested parties may submit comments using any of the methods described in the **ADDRESSES** section at the beginning of this rule.

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

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

Do not submit to [regulations.gov](http://regulations.gov) information for which disclosure is

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

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

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

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

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English and are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

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

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

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

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

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

The Secretary of Energy has approved publication of today's interim final 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 23, 2011.

**Cathy Zoi,**

*Assistant Secretary, Energy Efficiency and Renewable Energy.*

For the reasons stated in the preamble, part 430 of chapter II of title 10, Code of Federal Regulations, is amended 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 revising the definition for “Microwave oven” to read as follows:

\* \* \* \* \*

*Microwave oven* means a class of kitchen ranges and ovens comprised of household cooking appliances consisting of a compartment designed to cook or heat food by means of microwave energy, including microwave ovens with or without thermal elements designed for surface browning of food and combination ovens.

\* \* \* \* \*

#### § 430.3 [Amended]

■ 3. Section 430.3 is amended in paragraph (l)(1) by adding the words “Appendix I,” after the words “Appendix F,”.

■ 4. Section 430.23 is amended by adding paragraph (i)(13) to read as follows:

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

\* \* \* \* \*

(i) \* \* \*

(13) The energy test procedure is designed to provide a measurement representative of average consumer use of the product, even if the test conditions and procedures may not be identical to average consumer use (*for example*, specified display times). If a product contains energy consuming components that operate differently during the prescribed testing than they would during representative average consumer use, and applying the prescribed test to that product would evaluate it in a manner that is unrepresentative of its true energy consumption (thereby providing materially inaccurate comparative data), the prescribed procedure may not be used. For example, the energy use of a component in a product (*such as* display wattage) may not vary predictably as a function of operating conditions or control inputs—such as when a display is automatically dimmed when test conditions or test settings are reached. A manufacturer wishing to test such a product must obtain a waiver in accordance with the relevant provisions of 10 CFR part 430.

\* \* \* \* \*

- 5. Appendix I to Subpart B of Part 430 is amended:
  - a. By adding a note after the heading;
  - b. By revising section 1. *Definitions*;
  - c. In section 2. *Test Conditions*, by:
    - i. Revising sections 2.2.1, 2.5, and 2.6;
    - ii. Adding new sections 2.1.3, 2.2.1.1, 2.2.1.2, 2.5.1, 2.5.2, and 2.9.1.3; and
  - d. In section 3. *Test Methods and Measurements*, by:
    - 1. Revising sections 3.1.1, 3.1.1.1, and 3.1.2; and
    - 2. Adding new sections 3.1.3, 3.1.3.1, 3.2.3, and 3.3.13.

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**

**Note:** The procedures and calculations in this Appendix need not be performed to determine compliance with energy conservation standards for conventional ranges, conventional cooking tops, conventional ovens, and microwave ovens at this time. However, any representation related to standby mode and off mode energy consumption of these products made after September 6, 2011 must be based upon results generated under this test procedure, consistent with the requirements of 42 U.S.C. 6293(c)(2). After July 1, 2010, however, when DOE adopts an energy conservation standard that incorporates standby mode and off mode energy consumption, and upon the compliance date for such standards, compliance with the applicable provisions of this test procedure will also be required. Future revisions may add relevant provisions for measuring active mode in microwave ovens.

\* \* \* \* \*

**1. Definitions**

1.1 *Active mode* means a mode in which a conventional cooking top, conventional oven, conventional range, or microwave oven is connected to a mains power source, has been activated, and is performing the main function of producing heat by means of a gas flame, electric resistance heating, or microwave energy. Delay start mode is a one off user-initiated short duration function that is associated with an active mode.

1.2 *Built-in* means the product is supported by surrounding cabinetry, walls, or other similar structures.

1.3 *Drop-in* means the product is supported by horizontal surface cabinetry.

1.4 *Forced convection* means a mode of conventional oven operation in which a fan is used to circulate the heated air within the oven compartment during cooking.

1.5 *Freestanding* means the product is not supported by surrounding cabinetry, walls, or other similar structures.

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 June 2005). (incorporated by reference, see § 430.3)

1.7 *Normal nonoperating temperature* means the temperature of all areas of an appliance to be tested are within 5 °F (2.8 °C) of the temperature that the identical areas of the same basic model of the appliance would attain if it remained in the test room for 24 hours while not operating with all oven doors closed and with any gas pilot lights on and adjusted in accordance with manufacturer’s instructions.

1.8 *Off mode* means a mode in which a conventional cooking top, conventional oven, conventional range, or microwave oven is connected to a mains power source and is not providing any active mode or standby mode function and where the mode may persist for an indefinite time. An indicator that only shows the user that the product is in the off position is included within the classification of an off mode.

1.9 *Primary energy consumption* means either the electrical energy consumption of a conventional electric oven or the gas energy consumption of a conventional gas oven.

1.10 *Secondary energy consumption* means any electrical energy consumption, other than clock energy consumption, of a conventional gas oven.

1.11 *Standard cubic foot (L) of gas* means that quantity of gas that occupies 1 cubic foot (L) when saturated with water vapor at a temperature of 60 °F (15.6 °C) and a pressure of 30 inches of mercury (101.6 kPa) (density of mercury equals 13.595 grams per cubic centimeter).

1.12 *Standby mode* means any mode in which a conventional cooking top, conventional oven, conventional range, or microwave oven is connected to a mains power source and offers one or more of the following user-oriented or protective functions which may persist for an indefinite time: (a) To facilitate the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, or timer; (b) continuous functions, including information or status displays (including clocks) or sensor-based functions. A timer is a continuous clock function (which may or may not be associated with a display) that allows for regularly scheduled tasks and that operates on a continuous basis.

1.13 *Thermocouple* means a device consisting of two dissimilar metals which are joined together and, with their associated wires, are used to measure temperature by means of electromotive force.

1.14 *Symbol usage*. The following identity relationships are provided to help clarify the symbology used throughout this procedure.

- A—Number of Hours in a Year
- B—Number of Hours Pilot Light Contributes to Cooking
- C—Specific Heat
- E—Energy Consumed
- Eff—Cooking Efficiency
- H—Heating Value of Gas
- K—Conversion for Watt-hours to Kilowatt-hours
- K<sub>c</sub>—3.412 Btu/Wh, Conversion for Watt-hours to Btu’s

- M—Mass
- n—Number of Units
- O—Annual Useful Cooking Energy Output
- P—Power
- Q—Gas Flow Rate
- R—Energy Factor, Ratio of Useful Cooking Energy Output to Total Energy Input
- S—Number of Self-Cleaning Operations per Year
- T—Temperature
- t—Time
- V—Volume of Gas Consumed
- W—Weight of Test Block

**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. The microwave oven shall also be installed in accordance with Section 5, Paragraph 5.2 of IEC 62301 (incorporated by reference; see § 430.3). A watt meter shall be installed in the circuit and shall be as described in section 2.9.1.3.

\* \* \* \* \*

**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, maintain the electrical supply to the microwave oven at 120/240 volts and 60 hertz. For conventional range, conventional cooking top, and conventional oven standby mode and off mode testing, maintain the electrical supply frequency at 60 hertz ± 1 percent. Maintain the electrical supply for microwave oven testing within 1 percent of the specified voltage and frequency.

2.2.1.2 *Supply voltage waveform*. For the standby mode and off mode testing, maintain the electrical supply voltage waveform as indicated in Section 4, Paragraph 4.4 of IEC 62301 (incorporated by reference; see § 430.3).

\* \* \* \* \*

**2.5 Ambient room air temperature.**

2.5.1 *Active mode ambient room air temperature*. During the active mode test, maintain an ambient room air temperature, T<sub>R</sub>, of 77 ° ± 9 °F (25 ° ± 5 °C) for conventional ovens and cooking tops, 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.

2.5.2 *Standby mode and off mode ambient temperature*. For standby mode and off mode testing, maintain room ambient air temperature conditions as specified in Section 4, Paragraph 4.2 of IEC 62301 (incorporated by reference; see § 430.3).

2.6 *Normal nonoperating temperature*. All areas of the appliance to be tested shall attain the normal nonoperating temperature, as defined in section 1.7, before any testing begins. The equipment for measuring the

applicable normal nonoperating temperature shall be as described in sections 2.9.3.1, 2.9.3.2, 2.9.3.3, and 2.9.3.4, as applicable.

\* \* \* \* \*

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 (incorporated by reference; see § 430.3). 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. Test methods.

3.1.1 *Conventional oven.* Perform a test by establishing the testing conditions set forth in section 2, “TEST CONDITIONS,” of this Appendix, and adjust any pilot lights of a conventional gas oven in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional cooking top, if so equipped. Before beginning the test, the conventional oven shall be at its normal nonoperating temperature as defined in section 1.7 and described in section 2.6. Set the conventional oven test block  $W_1$  approximately in the center of the usable baking space. If there is a selector switch for selecting the mode of operation of the oven, set it for normal baking. If an oven permits baking by either forced convection by using a fan, or without forced convection, the oven is to be tested in each of those two modes. The oven shall remain on for at least one complete thermostat “cut-off/cut-on” of the electrical resistance heaters or gas burners after the test block temperature has increased 234 °F (130 °C) above its initial temperature.

3.1.1.1 *Self-cleaning operation of a conventional oven.* Establish the test conditions set forth in section 2, “TEST CONDITIONS,” of this Appendix. Adjust any pilot lights of a conventional gas oven in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional cooking top. The temperature of the conventional oven shall be its normal nonoperating temperature as defined in section 1.7 and described in section 2.6. Then set the conventional oven’s self-cleaning process in accordance with the manufacturer’s instructions. If the self-cleaning process is adjustable, use the average time recommended by the manufacturer for a moderately soiled oven.

\* \* \* \* \*

3.1.2 *Conventional cooking top.* Establish the test conditions set forth in section 2, “TEST CONDITIONS,” of this Appendix. Adjust any pilot lights of a conventional gas cooking top in accordance with the manufacturer’s instructions and turn off the gas flow to the conventional oven(s), if so equipped. The temperature of the conventional cooking top shall be its normal nonoperating temperature as defined in section 1.7 and described in section 2.6. Set the test block in the center of the surface unit under test. The small test block,  $W_2$ , shall be used on electric surface units of 7 inches (178 mm) or less in diameter. The large test block,  $W_3$ , shall be used on electric surface units

over 7 inches (177.8 mm) in diameter and on all gas surface units. Turn on the surface unit under test and set its energy input rate to the maximum setting. When the test block

reaches 144 °F (80 °C) above its initial test block temperature, immediately reduce the energy input rate to  $25 \pm 5$  percent of the maximum energy input rate. After  $15 \pm 0.1$  minutes at the reduced energy setting, turn off the surface unit under test.

\* \* \* \* \*

#### 3.1.3 Microwave oven.

3.1.3.1 *Microwave oven test standby mode and off mode power.* Establish the testing conditions set forth in section 2, “TEST CONDITIONS,” of this Appendix. 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 (incorporated by reference; see section 430.3), 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 as a function of displayed time in standby mode, set the clock time to 3:23 and use the average power approach described in Section 5, Paragraph 5.3.2(a), but with a single test period of 10 minutes  $+0/-2$  sec after an additional stabilization period until the clock time reaches 3:33. If a microwave oven is capable of operation in either standby mode or off mode, as defined in sections 1.12 and 1.8, respectively, or both, test the microwave oven in each mode in which it can operate.

\* \* \* \* \*

3.2.3 *Microwave oven test standby mode and off mode power.* Make measurements as specified in Section 5, Paragraph 5.3 of IEC 62301 (incorporated by reference; see § 430.3). 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 3.1.3.1. 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 3.1.3.1.

\* \* \* \* \*

3.3.13 Record the average standby mode power,  $P_{SB}$ , for the microwave oven standby mode, as determined in section 3.2.3 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 3.2.3 for a microwave oven capable of operating in off mode.

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[FR Doc. 2011–5044 Filed 3–8–11; 8:45 am]

**BILLING CODE 6450–01–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA–2010–1296; Directorate Identifier 2010–CE–063–AD; Amendment 39–16625; AD 2011–06–01]

RIN 2120–AA64

#### Airworthiness Directives; APEX Aircraft Model CAP 10 B Airplanes

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

A fatal accident occurred to a CAP 10C, in which the pilot lost control of the aeroplane.

The following investigation has revealed that the probable cause of the accident was the improper locking of a turnbuckle (locking clip missing) of the flight control cables, and the subsequent inadvertent release of the pitchup control cable from the turnbuckle.

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective April 13, 2011.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at Document Management Facility, U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Sarjapur Nagarajan, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329–4145; fax: (816) 329–4090.

#### SUPPLEMENTARY INFORMATION:

##### Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the **Federal Register** on December 30, 2010 (75 FR 82335). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states: