



[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 430

[EERE-2017-BT-STD-0023]

Energy Conservation Program: Energy Conservation Standards for Microwave Ovens

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

ACTION: Request for information.

SUMMARY: The U.S. Department of Energy (“DOE”) is initiating an effort to determine whether to amend the current energy conservation standards for microwave ovens. Under the Energy Policy and Conservation Act of 1975, as amended, DOE must review these standards at least once every six years and publish either a notice of proposed rulemaking (“NOPR”) to propose new standards for microwave ovens or a notice of determination that the existing standards do not need to be amended. This request for information (“RFI”) solicits information from the public to help DOE determine whether amended standards for microwave ovens would result in significant energy savings and whether such standards would be technologically feasible and economically justified. DOE welcomes written comments from the public on any subject within the scope of this document (including topics not raised in this RFI).

DATES: Written comments and information are requested and will be accepted on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <http://www.regulations.gov>. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number

EERE-2017-BT-STD-0023, by any of the following methods:

1. *Federal eRulemaking Portal*: <http://www.regulations.gov>. Follow the instructions for submitting comments.
2. *E-mail*: MWO2017STD0023@ee.doe.gov. Include the docket number EERE-2017-BT-STD-0023 in the subject line of the message.
3. *Postal Mail*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1445. If possible, please submit all items on a compact disc (“CD”), in which case it is not necessary to include printed copies.
4. *Hand Delivery/Courier*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 950 L’Enfant Plaza, SW., 6th Floor, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No telefacsimilies (faxes) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section III of this document.

Docket: The docket for this activity, which includes *Federal Register* notices, comments, and other supporting documents/materials, is available for review at <http://www.regulations.gov>. All documents in the docket are listed in the <http://www.regulations.gov> index. However, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

The docket web page can be found at <https://www.regulations.gov/docket?D=EERE-2017-BT-STD-0023>. The docket web page contains instructions on how to access all documents, including public comments, in the docket. See section III for information on how to submit comments through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT:

Dr. Stephanie Johnson, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-1943. E-mail: ApplianceStandardsQuestions@ee.doe.gov.

Ms. Celia Sher, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 287-6122. E-mail: Celia.Sher@hq.doe.gov.

For further information on how to submit a comment, or review other public comments and the docket contact the Appliance and Equipment Standards Program staff at (202) 287-1445 or by e-mail: ApplianceStandardsQuestions@ee.doe.gov.

SUPPLEMENTARY INFORMATION:

Table of Contents

- I. Introduction
 - A. Authority and Background
 - B. Rulemaking Process
- II. Request for Information and Comments
 - A. Products Covered by This Rulemaking
 - B. Market and Technology Assessment
 - 1. Test Procedure
 - 2. Product Classes

- 3. Technology Assessment
- C. Screening Analysis
- D. Engineering Analysis
 - 1. Baseline Efficiency Levels
 - 2. Maximum Available and Maximum Technologically Feasible Levels
 - 3. Manufacturer Production Costs and Manufacturing Selling Price
- E. Distribution Channels and Markups Analysis
- F. Energy Use Analysis
- G. Repair and Maintenance Costs
- H. Shipments
- I. National Impact Analysis
- J. Manufacturer Impact Analysis
- K. Other Energy Conservation Standards Topics
 - 1. Market Failures
 - 2. Other
- III. Submission of Comments

I. Introduction

Microwave ovens are included in the list of “covered products” for which DOE is authorized to establish and amend energy conservation standards and test procedures. (42 U.S.C. 6292(a)(10)) DOE’s energy conservation standards for microwave ovens are prescribed at 10 CFR 430.32(j)(3). The following sections discuss DOE’s authority to establish and amend energy conservation standards for microwave ovens, as well as relevant background information regarding DOE’s consideration of energy conservation standards for this product.

A. Authority and Background

The Energy Policy and Conservation Act of 1975, as amended (“EPCA”),¹ among other

¹ All references to EPCA in this document refer to the statute as amended through America’s Water Infrastructure Act of 2018, Public Law 115–270 (October 23, 2018).

things, authorizes DOE to regulate the energy efficiency of a number of consumer products and industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B² of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles. These products include kitchen ranges and ovens, including microwave ovens that are the subject of this document. (42 U.S.C. 6292(a)(10))

Under EPCA, DOE’s energy conservation program consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA specifically include definitions (42 U.S.C. 6291), test procedures (42 U.S.C. 6293), labeling provisions (42 U.S.C. 6294), energy conservation standards (42 U.S.C. 6295), and the authority to require information and reports from manufacturers (42 U.S.C. 6296).

Federal energy efficiency requirements for covered products established under EPCA generally supersede State laws and regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297(a)–(c)) DOE may, however, grant waivers of Federal preemption in limited instances for particular State laws or regulations, in accordance with the procedures and other provisions set forth under 42 U.S.C. 6297(d).

EPCA prescribed energy conservation standards for kitchen ranges and ovens, and directed DOE to conduct two cycles of rulemakings to determine whether to amend standards for these products. (42 U.S.C. 6295(h)(2)(A)–(B)) DOE completed the first of these rulemaking cycles by publishing a final rule on September 8, 1998, that codified the prescriptive standard

² For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

established in EPCA,³ but found that no standards were justified for electric cooking products, including microwave ovens, at that time. 63 FR 48038. Additionally, DOE completed the second rulemaking cycle and published a final rule on April 8, 2009, in which it determined, among other things, that standards for microwave oven active mode energy use were still not justified. 74 FR 16040 (“April 2009 Final Rule”). Most recently, DOE published a final rule on June 17, 2013, adopting energy conservation standards for microwave oven standby mode and off mode. 78 FR 36316 (“June 2013 Final Rule”). The current energy conservation standards for microwave ovens are located at 10 CFR 430.32(j)(3). The currently applicable DOE test procedures for microwave ovens appear at 10 CFR part 430, subpart B, appendix I (“Appendix I”).

EPCA also requires that, not later than 6 years after the issuance of any final rule establishing or amending a standard, DOE must publish either a notice of determination that the standards for the product do not need to be amended, or a NOPR including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6295(m)(1)) EPCA further provides that, not later than 3 years after the issuance of a final determination not to amend standards, DOE must publish either a notice of determination that standards for the product do not need to be amended, or a NOPR including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6295(m)(3)(B)) DOE must make the analysis on which the determination is based publicly available and provide an opportunity for written comment. (42 U.S.C. 6295(m)(2)) In making a determination, DOE must evaluate whether more stringent standards would (1) yield a significant savings in energy use and (2) be both technologically feasible and economically justified. (42 U.S.C.

³ EPCA requires that gas kitchen ranges and ovens having an electrical supply cord shall not be equipped with a constant burning pilot for products manufactured on or after January 1, 1990. (42 U.S.C. 6295(h)(1))

6295(m)(1)(A))

DOE is publishing this RFI to collect data and information to inform its decision consistent with its obligations under EPCA.

B. Rulemaking Process

DOE must follow specific statutory criteria for prescribing new or amended standards for covered products. EPCA requires that any new or amended energy conservation standard prescribed by the Secretary be designed to achieve the maximum improvement in energy or water efficiency that is technologically feasible and economically justified. (42 U.S.C.

6295(o)(2)(A)) To determine whether a standard is economically justified, EPCA requires that DOE determine whether the benefits of the standard exceed its burdens by considering, to the greatest extent practicable, the following seven factors:

- (1) The economic impact of the standard on the manufacturers and consumers of the affected products;
- (2) The savings in operating costs throughout the estimated average life of the product compared to any increases in the initial cost, or maintenance expenses;
- (3) The total projected amount of energy and water (if applicable) savings likely to result directly from the standard;
- (4) Any lessening of the utility or the performance of the products likely to result from the standard;
- (5) The impact of any lessening of competition, as determined in writing by the Attorney General, that is likely to result from the standard;
- (6) The need for national energy and water conservation; and
- (7) Other factors the Secretary of Energy (Secretary) considers relevant. (42 U.S.C.

6295(o)(2)(B)(i)(I)–(VII))

DOE fulfills these and other applicable requirements by conducting a series of analyses throughout the rulemaking process. Table I.1 shows the individual analyses that are performed to satisfy each of the requirements within EPCA.

Table I.1 EPCA Requirements and Corresponding DOE Analysis

EPCA Requirement	Corresponding DOE Analysis
Technological Feasibility	<ul style="list-style-type: none"> • Market and Technology Assessment • Screening Analysis • Engineering Analysis
Economic Justification:	
1. Economic impact on manufacturers and consumers	<ul style="list-style-type: none"> • Manufacturer Impact Analysis • Life-Cycle Cost and Payback Period Analysis • Life-Cycle Cost Subgroup Analysis • Shipments Analysis
2. Lifetime operating cost savings compared to increased cost for the product	<ul style="list-style-type: none"> • Markups Analysis • Energy Use Analysis • Life-Cycle Cost and Payback Period Analysis
3. Total projected energy savings	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
4. Impact on utility or performance	<ul style="list-style-type: none"> • Screening Analysis • Engineering Analysis
5. Impact of any lessening of competition	<ul style="list-style-type: none"> • Manufacturer Impact Analysis
6. Need for national energy and water conservation	<ul style="list-style-type: none"> • Shipments Analysis • National Impact Analysis
7. Other factors the Secretary considers relevant	<ul style="list-style-type: none"> • Employment Impact Analysis • Utility Impact Analysis • Emissions Analysis • Monetization of Emission Reductions Benefits • Regulatory Impact Analysis

As detailed throughout this RFI, DOE is publishing this document seeking input and data

from interested parties to aid in the development of the technical analyses on which DOE will ultimately rely to determine whether (and if so, how) to amend the standards for microwave ovens.

II. Request for Information and Comments

In the following sections, DOE has identified a variety of issues on which it seeks input to aid in the development of the technical and economic analyses regarding whether amended standards for microwave ovens may be warranted. Additionally, DOE welcomes comments on other issues relevant to the conduct of this rulemaking that may not specifically be identified in this document. In particular, DOE notes that under Executive Order 13771, “Reducing Regulation and Controlling Regulatory Costs,” Executive Branch agencies such as DOE are directed to manage the costs associated with the imposition of expenditures required to comply with Federal regulations. 82 FR 9339. Consistent with that Executive Order, DOE encourages the public to provide input on measures DOE could take to lower the cost of its regulations applicable to microwave ovens while remaining consistent with the requirements of EPCA.

Further, DOE seeks comment on whether there have been sufficient technological or market changes since the most recent standards update that may justify a new rulemaking to consider more stringent standards. Specifically, DOE seeks data and information that could enable the agency to determine whether DOE should propose a “no new standard” determination because a more stringent standard: (1) would not result in a significant savings of energy; (2) is not technologically feasible; (3) is not economically justified; or (4) any combination of foregoing.

A. Products Covered by This Rulemaking

This RFI covers those products that meet the definition of “microwave oven,” as codified at 10 CFR 430.2. The definition for microwave ovens was most recently amended in a test procedure final rule published on January 18, 2013. 78 FR 4015.

Specifically, as codified, “microwave oven” means a category of cooking products which is a household cooking appliance 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 convection microwave ovens. This includes any microwave oven(s) component of a combined cooking product.⁴ 10 CFR 430.2.

Additionally, DOE’s regulations at 10 CFR 430.2 define a “convection microwave oven” as a microwave oven that incorporates convection features and any other means of cooking in a single compartment.

For the purpose of the energy conservation standards, further distinction is made as to whether a microwave oven is a “microwave-only oven,” “countertop convection microwave oven,” “built-in microwave oven,” or an “over-the-range convection microwave oven.” 10 CFR 430.32(j)(3). “Built-in” means the product is enclosed in surrounding cabinetry, walls, or other similar structures on at least three sides, and can be supported by surrounding cabinetry or the floor. Section 1.2 of Appendix I. “Microwave-only,” “countertop,” and “over-the-range” are not explicitly defined.

Issue A.1 DOE requests comment on whether the definitions for “microwave oven,” “convection microwave oven,” and “built-in” (as that term pertains to microwave ovens) require

⁴ Section 1.3 of Appendix I defines “combined cooking product” as a household cooking appliance that combines a cooking product with other appliance functionality, which may or may not include another cooking product. Combined cooking products include the following products: Conventional range, microwave/conventional cooking top, microwave/conventional oven, and microwave/conventional range.

any revisions – and if so, how those definitions should be revised.

Issue A.2 DOE requests comment on whether definitions are necessary for “microwave-only,” “countertop,” and “over-the-range” and if so how those terms should be defined. DOE requests comment on whether additional product definitions are necessary to close any potential gaps in coverage between product types. DOE also seeks input on whether such products currently exist in the market or whether they are being planned for introduction. DOE also requests comment on opportunities to combine product classes that could reduce regulatory burden.

B. Market and Technology Assessment

The market and technology assessment that DOE routinely conducts when analyzing the impacts of a potential new or amended energy conservation standard provides information about the microwave oven industry that will be used in DOE’s analysis throughout the rulemaking process. DOE uses qualitative and quantitative information to characterize the structure of the industry and market. DOE identifies manufacturers, estimates market shares and trends, addresses regulatory and non-regulatory initiatives intended to improve energy efficiency or reduce energy consumption, and explores the potential for efficiency improvements in the design and manufacturing of microwave ovens. DOE also reviews product literature, industry publications, and company websites. Additionally, DOE considers conducting interviews with manufacturers to improve its assessment of the market and available technologies for microwave ovens.

1. Test Procedure

DOE’s test procedures for microwave ovens are codified in Appendix I. The test procedure was originally established in an October 3, 1997, final rule that addressed active mode

energy use only. 62 FR 51976.

On July 22, 2010, DOE published in the *Federal Register* a final rule for the microwave oven test procedure in which it repealed the regulatory provisions for establishing the cooking efficiency test procedure for microwave ovens under EPCA. 75 FR 42579 (“July 2010 TP Repeal Final Rule”). In the July 2010 TP Repeal Final Rule, DOE determined that the existing microwave oven test procedure to measure the cooking efficiency did not produce representative and repeatable test results. 75 FR 42579, 42581. DOE also stated that it was unaware of any test procedures that measured microwave oven cooking efficiency with representative and repeatable test results. *Id.*

On March 9, 2011, DOE published an interim final rule establishing test procedures for microwave ovens regarding the measurement of the average standby mode and average off mode power consumption that incorporated by reference specific clauses from the International Electrotechnical Commission (“IEC”) Standard 62301, “Household electrical appliances—Measurement of standby power,” First Edition 2005-06 (“IEC Standard 62301 (First Edition)”). 76 FR 12825. DOE also incorporated definitions of “active mode,” “standby mode,” and “off mode,” as well as language to clarify the application of clauses from IEC Standard 62301 (First Edition) for measuring standby mode and off mode power. *Id.*

On January 18, 2013, DOE published a final rule amending the microwave oven test procedure to incorporate by reference certain provisions of IEC Standard 62301 Edition 2.0 2011-01, along with clarifying language, for the measurement of standby mode and off mode energy use. 78 FR 4015. DOE also confirmed that the microwave oven portion of a combined product is covered under the definition of “microwave oven” at 10 CFR 430.2, but due to a lack of data and information, did not adopt provisions in the microwave oven test procedure to

measure the standby mode and off mode energy use of the microwave portion. 78 FR 4015, 4017.

On December 16, 2016, DOE published a final rule amending the cooking products test procedure to, in part, incorporate methods to calculate the annual standby mode and off mode energy consumption of the microwave oven component of a combined cooking product by allocating a portion of the combined low-power mode energy consumption measured for the combined cooking product to the microwave oven component using the estimated annual cooking hours for the given components comprising the combined cooking product. 81 FR 91418, 91438–91439 (“December 2016 TP Final Rule”).

On January 18, 2018, DOE published an RFI (the “January 2018 TP RFI”) soliciting comment from interested parties on issues related to the microwave oven test procedure to determine whether amendments to the test procedure are warranted. In the January 2018 TP RFI, DOE identified issues related to the measurement of active mode, standby mode, and off mode energy use. 83 FR 02566. If DOE determines that amendments to the microwave oven test procedure are warranted, it would conduct any analysis for the standards rulemaking based on the amended test procedure.

While there is currently no active mode test procedure for microwave ovens, DOE may consider an active mode test in the future. If DOE develops an active mode test procedure for microwave ovens, it must incorporate active mode, standby mode, and off mode energy use into a single integrated energy use metric, unless it is technically infeasible to do so, as required by EPCA. (42 U.S.C. 6295(gg)(2)(A)) If an integrated test procedure is technically infeasible, DOE must prescribe separate active mode, standby mode and off mode energy use test procedures, if separate tests are technically feasible. (*Id.*) EPCA also requires that when DOE

adopts a standard for a covered product, it must, pursuant to criteria for adoption of standards at 42 U.S.C. 6295(o), incorporate active mode, standby mode and off mode energy use into a single standard, if feasible, or adopt separate standards for such energy use for that product. (42 U.S.C. 6295(gg)(3))

Issue B.1 DOE requests comment on the feasibility of incorporating active mode, standby mode and off mode energy use into a single standard for microwave ovens in the event that DOE develops an active mode test procedure.

2. Product Classes

When evaluating and establishing energy conservation standards, DOE may divide covered products into product classes by the type of energy used, or by capacity or other performance-related features that justify a different standard. (42 U.S.C. 6295(q)) In making a determination whether capacity or another performance-related feature justifies a different standard, DOE must consider such factors as the utility of the feature to the consumer and other factors DOE deems appropriate. (*Id.*)

For microwave ovens, the current energy conservation standards specified in 10 CFR 430.32(j)(3) are based on two product classes determined according to the following performance-related features that provide utility to the consumer, in terms of locations where the product may be installed and availability of additional cooking functions: intended installation (*i.e.*, countertop, built-in, or over-the-range) and presence of convection heating components.

Table II.1 lists the current two product classes for microwave ovens.

Table II.1 Current Microwave Oven Product Classes

Product Class	
1	Microwave-only ovens and countertop convection microwave ovens
2	Built-in and over-the-range convection microwave ovens

These product classes were established in the June 2013 Final Rule for the purposes of setting energy conservation standards addressing standby mode and off mode energy use, and were determined to be warranted based on their different standby power performances. 78 FR 36316, 36328-36329. DOE noted at the time that if, in the future, DOE considers whether active mode energy conservation standards are warranted, it may consider redefining the product classes according to the utility of performance related features and energy use for both active mode and standby mode. 78 FR 36316, 36329. DOE further stated that such revised product classes would not be limited by the product classes established for standby mode in the June 2013 Final Rule. *Id.*

As discussed in section II.B.1 of this document, the current microwave oven test procedure in Appendix I includes provisions for measuring power consumption in standby mode and off mode only. DOE may consider in a separate rulemaking whether the microwave oven test procedure in Appendix I should be amended to include energy use in active mode, including the possibility of an integrated energy use metric that would account for energy use in active mode, standby mode, and off mode.

Issue B.2 DOE requests feedback on the current microwave oven product classes and whether changes to these individual product classes and their descriptions should be made or whether certain classes should be merged or separated (such as separating microwave-only and countertop convection microwave ovens into separate product classes). DOE further requests feedback on whether combining certain classes could impact product utility by eliminating any performance-related features or impact the stringency of the current energy conservation standard for these products. DOE also requests comment on separating any of the existing product classes and whether it would impact product utility by eliminating any performance-

related features or reduce any compliance burdens.

Issue B.3 DOE seeks information regarding any other new or revised product classes it should consider for inclusion in its analysis in the event that the microwave oven test procedure addresses active mode energy use, including a potential integrated energy use metric.

DOE is also aware that new configurations and features may be available for microwave ovens that may not have been available at the time of the last energy conservation standards analysis.

Issue B.4 DOE seeks information regarding any other new product classes it should consider for inclusion in its analysis. Specifically, DOE requests information on the performance-related features that provide unique consumer utility and data detailing the corresponding impacts on energy use that would justify separate product classes (*i.e.*, explanation for why the presence of these performance-related features would increase energy consumption).

DOE is also aware of the introduction of combined cooking products that incorporate a microwave oven component. As discussed in section II.A of this document, combined cooking products are defined in Appendix I as household cooking appliances that combine a cooking product with other appliance functionality, which may or may not include another cooking product. Combined cooking products that incorporate a microwave oven may include the following products: microwave ovens with a conventional cooking top, microwave ovens with a conventional oven, and microwave ovens with a conventional range. The microwave oven(s) component of a combined cooking product is considered a covered product under the definition of microwave ovens in 10 CFR 430.2. In the June 2013 Final Rule, DOE noted that the test procedure in Appendix I at that time did not include methods for measuring the standby mode

and off mode energy use for the microwave oven portion of a combined cooking product. As a result, DOE determined that the standby power standard levels for microwave ovens adopted in the June 2013 Final Rule do not apply to the microwave portion of combined products. 78 FR 36316, 36328. As discussed in section II.B.1 of this document, DOE amended the cooking products test procedure in Appendix I in the December 2016 TP Final Rule to incorporate methods for calculating the annual standby mode and off mode energy consumption of the microwave oven component of a combined cooking product.

Issue B.5 DOE requests information on the types of combined cooking products that include a microwave oven component that are available on the market. DOE also requests comment on how the microwave oven component of a combined cooking product should be considered in its potential analysis. DOE seeks information and data on the energy use of combined cooking products, including the energy use allocated to the microwave oven component.

3. Technology Assessment

In analyzing the feasibility of potential new or amended energy conservation standards, DOE uses information about existing and past technology options and prototype designs to help identify technologies that manufacturers could use to meet and/or exceed a given set of energy conservation standards under consideration. In consultation with interested parties, DOE intends to develop a list of technologies to consider in its analysis. That analysis will likely include a number of the technology options DOE previously considered during its most recent rulemaking for microwave ovens. A complete list of those prior options appears in Table II.2. DOE notes that in addition to improvements in the technology options identified previously as part of the June 2013 Final Rule, energy savings for microwave-only ovens may be achieved by replacing

the typical filament cavity lamps (*i.e.*, lamps that illuminates the interior of the microwave oven) with more efficient light emitting diodes (“LEDs”). This technology option is listed in Table II.3.

Table II.2 Previously Considered Technology Options for Microwave Ovens from the April 2009 Final Rule and June 2013 Final Rule⁵

Active Mode	Standby Mode
Added insulation	Lower-power display technologies
Cooking sensors	Cooking sensors with no standby power requirement
Dual magnetrons	Improved power supply and control board options
Eliminated or improved ceramic stirrer cover	Automatic power-down of most power-consuming components, including the clock display
Improved fan efficiency	
Improved magnetron efficiency	
Improved power supply efficiency	
Modified wave guide	
Reflective surfaces	

Table II.3 New Technology Options for Microwave Ovens

Active Mode	Standby Mode and Off Mode
Light emitting diode (LED) cavity lamp (microwave-only ovens only)	No additional technology options identified

Issue B.6 DOE seeks information on the standby power technologies listed in Table II.2 of this RFI regarding their applicability to the current market and how these technologies may impact the efficiency of microwave ovens as measured according to the DOE test procedure. DOE also seeks information on how these technologies may have changed since they were considered in the June 2013 Final Rule analysis. Specifically, DOE seeks information on the range of efficiencies or performance characteristics that are currently available for each

⁵ Descriptions of these technology options can be found in chapter 3 of the Technical Support Document for the April 2009 Final Rule (found in the docket at <https://www.regulations.gov/document?D=EERE-2006-STD-0127-0097>) and the June 2013 Final Rule (found in the docket at <https://www.regulations.gov/document?D=EERE-2011-BT-STD-0048-0021>)

technology option. Finally, DOE seeks information on whether any of these options have been superseded by newer technology and therefore no longer applicable.

Issue B.7 DOE seeks information on the active mode technologies listed in Table II.2 of this RFI, including how they may be measured by a potential future microwave oven test procedure that includes active mode testing provisions and how they would be applicable to amended microwave oven standards. DOE seeks information on the range of efficiencies for various microwave oven components (*e.g.*, fan motors, magnetrons, wave guides, and power supplies).

Issue B.8 DOE seeks information on the technology listed in Table II.3 of this RFI regarding market adoption, costs, and any concerns with incorporating LED cavity lighting into microwave-only ovens (*e.g.*, potential safety concerns, manufacturing/production/implementation issues, *etc.*). DOE seeks particular comment on whether and how consumer utility could be affected by a change in cavity lighting technologies (*e.g.* consumer preferences, repair/replacement rates, product functionality, *etc.*).

Issue B.9 DOE seeks comment on other technology options that it should consider for inclusion in its analysis and if these technologies may impact product features or consumer utility.

C. Screening Analysis

The purpose of the screening analysis is to evaluate the technologies that improve product efficiency to determine which technologies will be eliminated from further consideration and which will be passed to the engineering analysis for further consideration.

DOE determines whether to eliminate certain technology options from further consideration based on the following criteria:

- (1) *Technological feasibility.* Technologies that are not incorporated in commercial products or in working prototypes will not be considered further.
- (2) *Practicability to manufacture, install, and service.* If it is determined that mass production of a technology in commercial products and reliable installation and servicing of the technology could not be achieved on the scale necessary to serve the relevant market at the time of the compliance date of the standard, then that technology will not be considered further.
- (3) *Impacts on product utility or product availability.* If a technology is determined to have significant adverse impact on the utility of the product to significant subgroups of consumers, or result in the unavailability of any covered product type with performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as products generally available in the United States at the time, it will not be considered further.
- (4) *Adverse impacts on health or safety.* If it is determined that a technology will have significant adverse impacts on health or safety, it will not be considered further.

10 CFR part 430, subpart C, appendix A, 4(a)(4) and 5(b).

Technology options identified in the technology assessment are evaluated against these criteria using DOE analyses and inputs from interested parties (*e.g.*, manufacturers, trade organizations, and energy efficiency advocates). Technologies that pass through the screening analysis are referred to as “design options” in the engineering analysis. Technology options that fail to meet one or more of the four criteria are eliminated from consideration.

Additionally, DOE notes that the four screening criteria do not directly address the propriety status of technology options. DOE only considers potential efficiency levels achieved through the use of proprietary designs in the engineering analysis if they are not part of a unique pathway to achieve that efficiency level (*i.e.*, if there are other non-proprietary technologies capable of achieving the same efficiency level).

In the April 2009 Final Rule and June 2013 Final Rule, DOE determined that all of the technology options for active mode and standby mode met the screening criteria. As a result, DOE did not screen out any technology options in the previous rulemaking analyses.

Issue C.1 DOE requests feedback on what impact, if any, the four screening criteria described in this section would have on each of the technology options listed in Table II.2 and Table II.3 of this document with respect to microwave ovens. Similarly, DOE seeks information regarding how these same criteria would affect any other technology options not already identified in this document with respect to their potential use in microwave ovens.

D. Engineering Analysis

The engineering analysis estimates the cost-efficiency relationship of products at different levels of increased energy efficiency (“efficiency levels”). This relationship serves as the basis for the cost-benefit calculations for consumers, manufacturers, and the Nation. In determining the cost-efficiency relationship, DOE estimates the increase in manufacturer production cost (“MPC”) associated with increasing the efficiency of products above the baseline, up to the maximum technologically feasible (“max-tech”) efficiency level for each product class.

DOE historically has used the following three methodologies to generate incremental manufacturing costs and establish efficiency levels (“ELs”) for analysis: (1) the design-option

approach, which provides the incremental costs of adding to a baseline model design options that will improve its efficiency; (2) the efficiency-level approach, which provides the relative costs of achieving increases in energy efficiency levels, without regard to the particular design options used to achieve such increases; and (3) the cost-assessment (or reverse engineering) approach, which provides “bottom-up” manufacturing cost assessments for achieving various levels of increased efficiency, based on detailed cost data for parts and material, labor, shipping/packaging, and investment for models that operate at particular efficiency levels.

1. Baseline Efficiency Levels

For each established product class, DOE selects a baseline model as a reference point against which any changes resulting from new or amended energy conservation standards can be measured. The baseline model in each product class represents the characteristics of common or typical products in that class. Typically, a baseline model is one that meets the current minimum energy conservation standards and provides basic consumer utility

Consistent with this analytical approach, DOE tentatively plans to consider the current minimum energy conservation standards (which are applicable to microwave ovens manufactured on or after June 17, 2016) to establish the baseline efficiency levels for standby power for each product class. The current standards for each product class are based on the maximum allowable average standby power in watts (W). The current standards for microwave ovens are found at 10 CFR 430.32(j)(3) and are presented in Table II.4 of this document.

Table II.4 June 17, 2016 Microwave Oven Energy Conservation Standard Levels

Product Class	Maximum Allowable Average Standby Power
Microwave-Only Ovens and Countertop Convection Microwave Ovens	1.0 W
Built-In and Over-the-Range Convection Microwave Ovens	2.2 W

As discussed in section II.B.1 of this document, DOE may consider in a separate rulemaking whether the microwave oven test procedure in Appendix I should be amended to include energy use in active mode, including the possibility of an integrated energy use metric that would account for energy use in active mode, standby mode, and off mode, which could affect baseline energy efficiency levels.

Issue D.1 DOE requests feedback on whether using the current established energy conservation standards for microwave ovens (*i.e.*, the maximum standby power requirements) are appropriate baseline efficiency levels for DOE to apply to each product class in evaluating whether to amend the current energy conservation standards for these products. DOE requests data and suggestions to evaluate the baseline efficiency levels in order to better evaluate amending energy conservation standards for these products.

Issue D.2 DOE seeks information regarding baseline efficiency levels in the event that the microwave oven test procedure addresses active mode energy use, including a potential integrated energy use metric. As interested parties have noted previously, microwave ovens do not vary significantly across countries.⁶ As a result, DOE seeks active mode energy use data for products using internationally-accepted active mode test procedures (*e.g.*, IEC Standard 60705–Edition 4.1, “Household microwave ovens – Methods for measuring performance” (“IEC

⁶ Association of Home Appliance Manufacturers comment on the February 4, 2013 test procedure NOPR for microwave ovens. Page 4 of document No. 27 in Docket No. EERE–2010–BT–TP–0023, available for review at <http://www.regulations.gov>.

Standard 60705 (Edition 4.1’)) to characterize the baseline efficiency levels for each product class.

Issue D.3 DOE requests feedback on the appropriate baseline efficiency levels for any newly analyzed product classes that are not currently in place or for the contemplated combined product classes, as discussed in section II.B.2 of this document. For newly analyzed product classes, DOE requests energy use data to develop a baseline relationship between energy use and adjusted volume.

2. Maximum Available and Maximum Technologically Feasible Levels

As part of DOE’s analysis, the maximum available efficiency level is the highest efficiency unit currently available on the market. DOE also considers the max-tech efficiency level, which it defines as the level that represents the theoretical maximum possible efficiency if all available design options are incorporated in a model. In many cases, the max-tech efficiency level is not commercially available because it is not economically feasible.

To inform its data collection in this RFI, DOE initially reviewed data in DOE’s Compliance Certification Database to evaluate the range of standby power for microwave ovens available on the market.⁷ Figure II.1 and Figure II.2 of this RFI show the range of standby power among current models for each microwave oven product class.

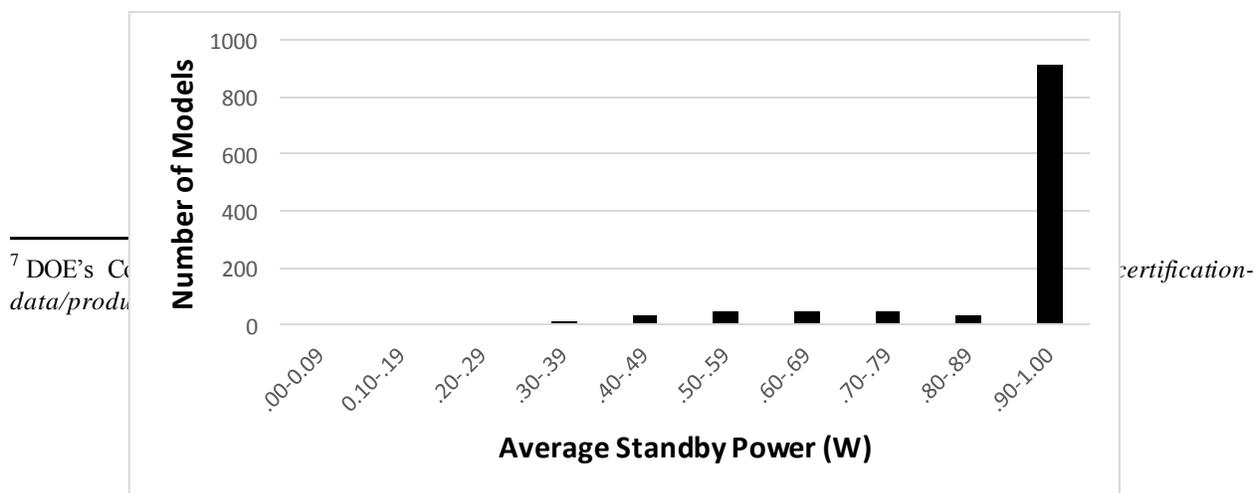


Figure II.1 Rated Standby Power for Microwave-Only Ovens and Countertop Convection Microwave Ovens

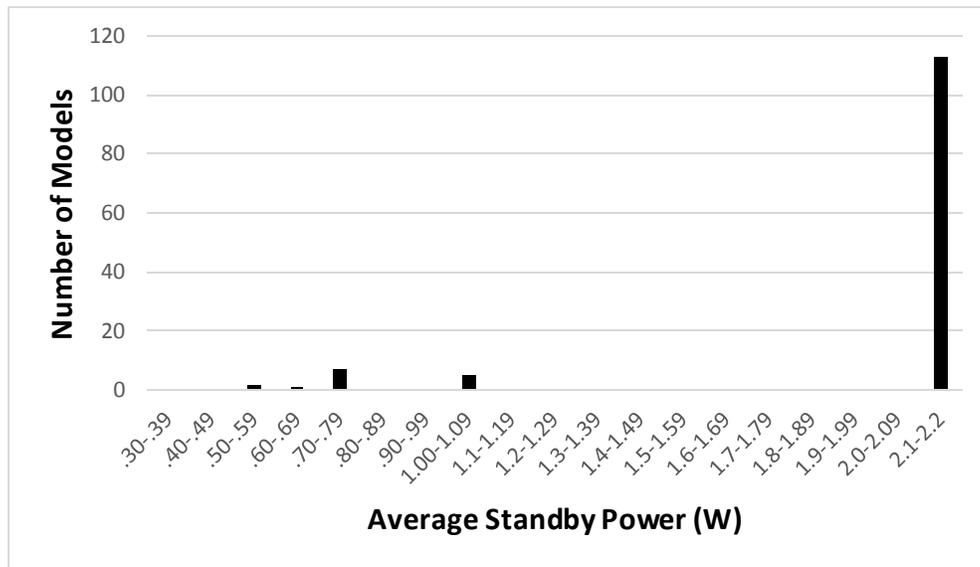


Figure II.2 Rated Standby Power for Built-In and Over-the-Range Convection Microwave Ovens

The microwave oven test procedure in Appendix I specifies that for the microwave oven standby mode and off mode power measurement, if a microwave oven drops from a higher power state to a lower power state, sufficient time is allowed for the microwave oven to reach the lower power state before proceeding with the test measurement. DOE is aware that some microwave ovens available on the market are able to achieve very low standby power levels by incorporating an automatic function that turns off most power-consuming components, such as the clock display, once a period of inactivity has elapsed. DOE also notes that some manufacturers provide instructions for disabling this feature so that features such as the clock display remain on at all times, whereas others do not provide instructions for how to disable the automatic function. In the June 2013 Final Rule, DOE did not adopt energy conservation standards for microwave oven standby power at what was then determined to be the maximum technologically feasible efficiency level, which was based on this automatic power-down

functionality, because the reduction in standby power would result in the loss of certain functions that provide utility to consumers, specifically the continuous clock display. 78 FR 36316, 36362.

As discussed, DOE previously determined that energy conservation standards for active mode were not technologically feasible and economically justified. 74 FR 16040, 16087. Also as discussed, DOE repealed the test procedure for microwave ovens as it related to active mode, having determined that the microwave oven test procedure to measure the cooking efficiency did not produce representative and repeatable test results and that DOE was unaware of any test procedures that measured microwave oven cooking efficiency with representative and repeatable test results. 75 FR 42579, 42581. In the event that DOE were to amend the microwave oven test procedure in Appendix I to include energy use in active mode, including the possibility of an integrated energy use metric, DOE would also consider efficiency levels associated with active mode efficiency improvements.

Issue D.4 DOE seeks input on appropriate standby power efficiency levels to consider in a potential analysis for each microwave oven product class.

Issue D.5 DOE seeks feedback on what design options would be incorporated at each efficiency level, and the efficiencies associated with those levels. As part of this request, DOE also seeks information as to whether there are limitations on the use of certain combinations of design options.

Issue D.6 DOE welcomes comment on how microwave ovens that automatically power down power-consuming components should be considered in its potential analysis, including information on the consumer utility associated with the functions that are powered-down (*e.g.*, continuous clock display). DOE seeks input on the number of models available on the market that incorporate such a feature and consumer usage data on how frequently consumers disable

the automatic power-down function when this feature is available.

Issue D.7 DOE seeks active mode energy use data for products using internationally-accepted active mode test procedures (*e.g.*, IEC Standard 60705 (Edition 4.1)) to characterize the range of efficiency levels addressing this mode for each product class. DOE also requests information on the technologies currently on the market that would improve active mode energy consumption measured under such test procedures, the order in which manufacturers would likely add such technologies, and any issues with the combined use of certain technologies.

3. Manufacturer Production Costs and Manufacturing Selling Price

As described at the beginning of this section, the main outputs of the engineering analysis are cost-efficiency relationships that describe the estimated increases in manufacturer production cost associated with higher-efficiency products for the analyzed product classes. For the April 2009 Final Rule and 2013 Final Rule, DOE developed the cost-efficiency relationships for active mode and standby mode, respectively, by estimating the efficiency improvements and costs associated with incorporating specific design options into the assumed baseline model for each analyzed product class.

Issue D.8 DOE requests feedback on how manufacturers would incorporate the technology options listed in Table II.2 and Table II.3 of this RFI to increase energy efficiency in microwave ovens beyond the baseline. This includes information on the order in which manufacturers would incorporate the different technologies to incrementally improve the efficiencies of products. DOE also requests feedback on whether the increased energy efficiency would lead to other design changes that would not occur otherwise. DOE is also interested in information regarding any potential impact of design options on a manufacturer's ability to incorporate additional functions or attributes in response to consumer demand.

Issue D.9 DOE also seeks input on the increase in MPC associated with incorporating each particular design option. Specifically, DOE is interested in whether and how the costs estimated for design options in the April 2009 Final Rule and 2013 Final Rule have changed since the time of that analysis. DOE also requests information on the investments necessary to incorporate specific design options, including, but not limited to, costs related to new or modified tooling (if any), materials, engineering and development efforts to implement each design option, and manufacturing/production impacts.

Issue D.10 DOE requests comment on whether certain design options may not be applicable to (or incompatible with) specific product classes.

To account for manufacturers' non-production costs and profit margin, DOE applies a non-production cost multiplier (the manufacturer markup) to the MPC. The resulting manufacturer selling price ("MSP") is the price at which the manufacturer distributes a unit into commerce. For the June 2013 Final Rule, DOE used a manufacturer markup of 1.298 for both microwave oven product classes: (1) microwave-only ovens and countertop convection microwave ovens, and (2) built-in and over-the-range convection microwave ovens.⁸

Issue D.11 DOE requests feedback on whether a manufacturer markup of 1.298 is appropriate for all microwave ovens.

E. Distribution Channels and Markups Analysis

To carry out the life-cycle cost ("LCC") and payback period ("PBP") calculations, DOE needs to determine the cost to the residential consumer of baseline products, and the cost of more-efficient units the consumer would purchase under potential amended standards. By applying a multiplier called a "markup" to the MSP, DOE is able to estimate the residential

⁸ For a discussion on how manufacturer markups were established, see section 12.4.9.1 of the June 2013 Final Rule TSD at <https://www.regulations.gov/document?D=EERE-2011-BT-STD-0048-0021>

consumer's price. In generating end-user price inputs for the LCC analysis and national impact analysis ("NIA"), DOE must identify distribution channels (*i.e.*, how the products are distributed from the manufacturer to the consumer) and estimate relative sales volumes through each channel. In the June 2013 Final Rule, DOE only accounted for the retail outlets distribution channel because data from the Association of Home Appliance Manufacturers ("AHAM") 2005 *Fact Book* indicated that the overwhelming majority of residential appliances were sold through retail outlets.⁹ In that rulemaking, DOE did not include a separate distribution channel for microwave oven products included as part of a new home because DOE did not have enough information to characterize which of these products were "pre-installed" by builders in these new homes. Should sufficient information become available, DOE may consider including a separate distribution channel that includes a contractor in addition to the existing retail outlets distribution channel.

Issue E.1 DOE requests information on the existence of any distribution channels other than the retail outlet distribution channel that are used to distribute the products at issue into the market. DOE also requests data on the fraction of microwave oven sales in the residential sector that go through both a wholesaler/retailer and a contractor as well as the fraction of sales that go through any other identified channels.

F. Energy Use Analysis

As part of the rulemaking process, DOE conducts an energy use analysis to identify how products are used by consumers, and thereby determine the energy savings potential of energy efficiency improvements. DOE bases the standby mode energy consumption of microwave ovens on the rated average standby power consumption as determined by the DOE test procedure

⁹ For a discussion on distribution channels for microwave ovens, see section 3.6.4 of the June 2013 Final Rule TSD at <https://www.regulations.gov/document?D=EERE-2011-BT-STD-0048-0021>

and would base the active mode energy consumption of microwave ovens on any amended DOE test procedure. Along similar lines, the energy use analysis is meant to represent typical energy consumption in the field.

In the June 2013 Final Rule, DOE accounted for standby mode energy use by subtracting the microwave oven active mode hours from the total number of hours in the year and multiplying the result by typical standby power consumption.

Issue F.1 DOE requests feedback and data on how a product's energy use changes with age and number of uses, and how the number and age of occupants in the household affects the product's energy use.

Issue F.2 DOE requests information and data on the typical standby power consumption associated with microwave ovens.

Issue F.3 DOE requests information and data on the typical active mode energy consumption and use associated with microwave ovens.

G. Repair and Maintenance Costs

In the June 2013 Final Rule, DOE excluded repair and maintenance costs from its analysis because there was no evidence that repair and maintenance costs change by efficiency level.

Issue G.1 DOE requests feedback and data on whether maintenance costs differ in comparison to the baseline maintenance costs for any of the specific technology options listed in Table II.2 and Table II.3 of this RFI. To the extent that these costs differ, DOE seeks supporting data and the reasons for those differences.

Issue G.2 DOE requests information and data on the frequency of repair and repair costs by product class for the technology options listed in Table II.2 and Table II.3 of this RFI. While

DOE is interested in information regarding each of the listed technology options. DOE is also interested in whether consumers simply replace the products when they fail as opposed to repairing them.

H. Shipments

DOE develops shipments forecasts of microwave ovens to calculate the national impacts of potential amended energy conservation standards on energy consumption, net present value (“NPV”), and future manufacturer cash flows. DOE shipments projections are based on available historical data broken out by product class and efficiency. Current sales estimates allow for a more accurate model that captures recent trends in the market.

Issue H.1 DOE requests 2018 annual sales data (*i.e.*, number of shipments) for microwave ovens by product class.

Issue H.2 DOE requests 2018 data on the fraction of sales in the residential and commercial sector for microwave ovens.

A table of the types of data requested for 2018 shipments in Issues H.1 and H.2 of this document can be found in Table II.5 of this RFI. Interested parties are also encouraged to provide additional shipments data as may be relevant.

Table II.5 Summary Table of Shipments-Related Data Requests

Product Class	Annual Sales (number sold in 2018)	Fraction of 2018 Annual Sales to Residential Sector (%)
Microwave-Only Ovens and Countertop Convection Microwave Ovens		
Built-In and Over-the-Range Convection Microwave Ovens		

If disaggregated fractions of annual sales are not available at the product type level, DOE requests more aggregated fractions of annual sales at the category level.

Issue H.3 If available, DOE requests the same information in Table II.5 of this RFI for the previous five years (2013–2017).

Issue H.4 DOE requests available sales data on the fraction of microwave oven sales by technology for the technology options listed in Table II.2 and Table II.3 of this RFI. DOE also requests information on any expected market trends in the popularity of those technology options.

Issue H.5 DOE requests data and information on any trends in the microwave oven market that could be used to forecast expected trends in product class market share.

Issue H.6 DOE requests input on any expected market trends for any new features, such as the potential for “smart” inter-connected microwave ovens, which may impact total energy consumption. To that end, on September 17, 2018, DOE published an RFI on the emerging smart technology appliance and equipment market. 83 FR 46886. In that RFI, DOE sought

information to better understand market trends and issues in the emerging market for appliances and commercial equipment that incorporate smart technology. DOE's intent in issuing the RFI was to ensure that DOE did not inadvertently impede such innovation in fulfilling its statutory obligations in setting efficiency standards for covered products and equipment. DOE seeks comments, data, and information on the issues presented in the September 2018 RFI as they may be applicable to microwave ovens.

I. National Impact Analysis

The purpose of the NIA is to estimate aggregate impacts of potential efficiency standards at the national level. Impacts reported by DOE include the national energy savings ("NES") from potential standards and the national net present value ("NPV") of the total consumer benefits. The NIA considers lifetime impacts of potential standards on microwave ovens shipped in a 30-year period that begins with the expected compliance date for amended standards.

Analyzing impacts of potential amended energy conservation standards for microwave ovens requires a comparison of projected U.S. energy consumption with and without the amended standards. The forecasts contain projections of annual appliance shipments, the annual energy consumption of new microwave ovens, and the purchase price of new microwave ovens.

A key component of DOE's estimates of NES and NPV would be the microwave oven energy efficiency forecasted over time for the no-standards case and each of the potential standards cases. In the June 2013 Final Rule, DOE based projections of no-standards-case shipment-weighted efficiency ("SWEF") for the microwave oven product classes on growth rates determined from historical data provided by AHAM. 78 FR 36316, 36346. For a potential future rulemaking, DOE would expect to consider recent trends in efficiency and input from interested parties to update product energy efficiency forecasts.

Issue I.1 DOE seeks market share data showing the percentage of product shipments by efficiency level for each product class.

J. Manufacturer Impact Analysis

The purpose of the manufacturer impact analysis (“MIA”) is to estimate the financial impact of amended energy conservation standards on manufacturers of microwave ovens, and to evaluate the potential impact of such standards on direct employment and manufacturing capacity. The MIA includes both quantitative and qualitative aspects. The quantitative part of the MIA primarily relies on the Government Regulatory Impact Model (“GRIM”), an industry cash-flow model adapted for microwave ovens, with the key output of industry net present value (“INPV”). The qualitative part of the MIA addresses the potential impacts of energy conservation standards on manufacturing capacity and industry competition, as well as factors such as product characteristics, impacts on particular subgroups of firms, and important market and product trends.

As part of the MIA, DOE intends to analyze impacts of any amended energy conservation standards on subgroups of manufacturers of covered products, including small business manufacturers. DOE uses the Small Business Administration’s (“SBA”) small business size standards to determine whether manufacturers qualify as small businesses, which are listed by the applicable North American Industry Classification System (“NAICS”) code.¹⁰ Manufacturing of microwave ovens is classified under NAICS 335220, “Major Household Appliance Manufacturing,” and the SBA sets a threshold of 1,500 employees or less for a domestic entity to be considered as a small business. This employee threshold includes all employees in a business’ parent company and any other subsidiaries.

¹⁰ Available online at: <https://www.sba.gov/document/support--table-size-standards>

One aspect of assessing manufacturer burden involves examining at the cumulative impact of multiple DOE standards and the product-specific regulatory actions of other Federal agencies that affect the manufacturers of a covered product or equipment. While any one regulation may not impose a significant burden on manufacturers, the combined effects of several existing or impending regulations may have serious consequences for some manufacturers, groups of manufacturers, or an entire industry. Assessing the impact of a single regulation may overlook this cumulative regulatory burden. In addition to energy conservation standards, other regulations can significantly affect manufacturers' financial operations. Multiple regulations affecting the same manufacturer can strain profits and lead companies to abandon product lines or markets with lower expected future returns than competing products. For these reasons, DOE conducts an analysis of cumulative regulatory burden as part of its rulemakings pertaining to appliance efficiency.

Issue J.1 To the extent feasible, DOE seeks the names and contact information of any domestic or foreign-based manufacturers that distribute microwave ovens in the United States.

Issue J.2 DOE identified small businesses as a subgroup of manufacturers that could be disproportionately impacted by amended energy conservation standards. DOE requests the names and contact information of small business manufacturers, as defined by the SBA's size threshold, of microwave ovens that distribute products in the United States. In addition, DOE requests comment on any other manufacturer subgroups that could be disproportionately impacted by amended energy conservation standards. DOE requests feedback on any potential approaches that could be considered to address impacts on manufacturers, including small businesses.

Issue J.3 DOE requests information regarding the cumulative regulatory burden impacts on manufacturers of microwave ovens associated with (1) other DOE standards applying to

different products that these manufacturers may also make and (2) product-specific regulatory actions of other Federal agencies. DOE also requests comment on its methodology for computing cumulative regulatory burden and whether there are any flexibilities it can consider that would reduce this burden while remaining consistent with the requirements of EPCA.

K. Other Energy Conservation Standards Topics

1. Market Failures

In the field of economics, a market failure is a situation in which the market outcome does not maximize societal welfare. Such an outcome would result in unrealized potential welfare. DOE welcomes comment on any aspect of market failures, especially those in the context of amended energy conservation standards for microwave ovens.

2. Other

In addition to the issues identified earlier in this document, DOE welcomes comment on any other aspect of energy conservation standards for microwave ovens not already addressed by the specific areas identified in this document.

III. Submission of Comments

DOE invites all interested parties to submit in writing by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, comments and information on matters addressed in this document and on other matters relevant to DOE's consideration of amended energy conservations standards for microwave ovens. After the close of the comment period, DOE will review the public comments received and may begin collecting data and conducting the analyses discussed in this RFI.

Submitting comments via <http://www.regulations.gov>. The <http://www.regulations.gov> web page requires you to provide your name and contact information. Your contact information

will be viewable to DOE Building Technologies Office 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 <http://www.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 <http://www.regulations.gov> cannot be claimed as CBI. Comments received through the website will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section.

DOE processes submissions made through <http://www.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 www.regulations.gov provides after you have successfully uploaded your comment.

Submitting comments via email, hand delivery/courier, or postal mail. Comments and documents submitted via email, hand delivery/courier, or postal mail also will be posted to <http://www.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, email 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. If you submit via postal mail or hand delivery/courier, please provide all items on a CD, if feasible. It is not necessary to submit printed copies. No telefacsimiles (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 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 email, postal mail, or hand delivery/courier 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 email 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).

DOE considers public participation to be a very important part of the process for developing energy conservation standards. DOE actively encourages the participation and interaction of the public during the comment period in each stage of the rulemaking process. Interactions with and between members of the public provide a balanced discussion of the issues and assist DOE in the rulemaking process. Anyone who wishes to be added to the DOE mailing list to receive future notices and information about this process or would like to request a public

meeting should contact Appliance and Equipment Standards Program staff at (202) 287-1445 or via e-mail at *ApplianceStandardsQuestions@ee.doe.gov*.

Signed in Washington, DC, on August 6, 2019.

Alexander N. Fitzsimmons
Acting Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

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