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[6450-01-P]

**DEPARTMENT OF ENERGY**

**10 CFR Part 430**

[EERE-2020-BT-STD-0039]

**RIN 1904-AF62**

**Energy Conservation Program: Energy Conservation Standards for Miscellaneous Refrigeration Products**

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

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Energy Policy and Conservation Act, as amended (“EPCA”), prescribes energy conservation standards for various consumer products and certain commercial and industrial equipment, including miscellaneous refrigeration products (“MREFs”). In this notice of proposed rulemaking (“NOPR”), DOE proposes new energy conservation standards for MREFs identical to those set forth in a direct final rule published elsewhere in this issue of the *Federal Register*. If DOE receives adverse comment and determines that such comment may provide a reasonable basis for withdrawal of the direct final rule, DOE will publish a notice of withdrawal and will proceed with this proposed rule.

**DATES:** DOE will accept comments, data, and information regarding this NOPR no later than [INSERT DATE 110 DAYS AFTER DATE OF PUBLICATION IN THE

***FEDERAL REGISTER***]. Comments regarding the likely competitive impact of the proposed standard should be sent to the Department of Justice contact listed in the **ADDRESSES** section on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** See section IV of this document, “Public Participation,” for details. If DOE withdraws the direct final rule published elsewhere in this issue of the *Federal Register*, DOE will hold a public meeting to allow for additional comment on this proposed rule. DOE will publish notice of any meeting in the *Federal Register*.

Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at [www.regulations.gov](http://www.regulations.gov) under docket number EERE-2020-BT-STD-0039. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE-2020-BT-STD-0039, by any of the following methods:

(1) *Email:* [ApplianceStandardsQuestions@ee.doe.gov](mailto:ApplianceStandardsQuestions@ee.doe.gov). Include the docket number EERE-2020-BT-STD-0039 in the subject line of the message.

(2) *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.

(3) *Hand Delivery/Courier*: Appliance and Equipment Standards Program, U.S. Department of Energy, Building Technologies Office, 1000 Independence Avenue, SW., 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 telefacsimiles (“faxes”) will be accepted. For detailed instructions on submitting comments and additional information on this process, see section IV 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 [www.regulations.gov](http://www.regulations.gov). All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

The docket webpage can be found at [www.regulations.gov/docket/EERE-2020-BT-STD-0039](http://www.regulations.gov/docket/EERE-2020-BT-STD-0039). The docket webpage contains instructions on how to access all documents, including public comments, in the docket. See section IV of this document for information on how to submit comments through [www.regulations.gov](http://www.regulations.gov).

EPCA requires the Attorney General to provide DOE a written determination of whether the proposed standard is likely to lessen competition. The U.S. Department of Justice Antitrust Division invites input from market participants and other interested persons with views on the likely competitive impact of the proposed standard. Interested

persons may contact the Division at *energy.standards@usdoj.gov* on or before the date specified in the **DATES** section. Please indicate in the “Subject” line of your email the title and Docket Number of this proposed rulemaking.

**FOR FURTHER INFORMATION CONTACT:**

Mr. Lucas Adin, 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) 287-5904 Email: *ApplianceStandardsQuestions@ee.doe.gov*.

Mr. Matthew Schneider, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue SW., Washington, DC, 20585-0121. Telephone: (202) 597-6265. Email: *matthew.schneider@hq.doe.gov*.

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

**SUPPLEMENTARY INFORMATION:**

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## **I. Synopsis of the Proposed Rule**

The Energy Policy and Conservation Act, Public Law 94-163, as amended (“EPCA”),<sup>1</sup> authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B of EPCA<sup>2</sup> established the Energy Conservation Program for Consumer Products Other Than Automobiles. (42 U.S.C. 6291–6309) These products include miscellaneous refrigeration products (“MREFs”), the subject of this proposed rulemaking.

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<sup>1</sup> All references to EPCA in this document refer to the statute as amended through the Energy Act of 2020, Public Law 116-260 (Dec. 27, 2020), which reflect the last statutory amendments that impact Parts A and A-1 of EPCA.

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

Pursuant to EPCA, any new or amended energy conservation standard must, among other things, be designed to achieve the maximum improvement in energy efficiency that DOE determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) Furthermore, the new or amended standard must result in significant conservation of energy. (42 U.S.C. 6295(o)(3)(B))

In light of the above and under the authority provided by 42 U.S.C. 6295(p)(4), DOE is proposing this rule establishing and amending the energy conservation standards for miscellaneous refrigeration products and is concurrently issuing a direct final rule elsewhere in this *Federal Register*. DOE will proceed with this notice of proposed rulemaking only if it determines it must withdraw the direct final rule pursuant to the criteria provided in 42 U.S.C. 6295(p)(4). The amended standard levels in the proposed rule and the direct final rule were recommended in a letter submitted to DOE jointly by groups representing manufacturers, energy and environmental advocates, consumer groups, and a utility. This letter, titled “Energy Efficiency Agreement of 2023” (hereafter, the “Joint Agreement”<sup>3</sup>), recommends specific energy conservation standards for miscellaneous refrigeration products that, in the commenters’ view, would satisfy the EPCA requirements in 42 U.S.C. 6295(o). DOE subsequently received letters of support from States including New York, California, and Massachusetts<sup>4</sup> and utilities including San Diego Gas and Electric and Southern California Edison<sup>5</sup> advocating for the adoption

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<sup>3</sup> This document is available in the docket at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0034](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0034).

<sup>4</sup> This document is available in the docket at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0035](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0035).

<sup>5</sup> This document is available in the docket at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0036](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0036).

of the recommended standards. As discussed in more detail in the accompanying direct final rule and in accordance with the provisions at 42 U.S.C. 6295(p)(4), DOE has determined that the recommendations contained in the Joint Agreement comply with the requirements of 42 U.S.C. 6295(o).

In accordance with these and other statutory provisions discussed in this document, DOE proposes new and amended energy conservation standards for miscellaneous refrigeration products. The standards for miscellaneous refrigeration products are expressed in terms of integrated annual energy use (“AEU”), measured in kilowatt-hours per year (“kWh/year”), as measured according to DOE’s current test procedure codified at title 10 of the Code of Federal Regulations (“CFR”) part 430, subpart B, appendix A (“appendix A”).

Table I.1 presents the proposed standards for MREFs. The proposed standards are the same as those recommended by the Joint Agreement. These standards would apply to all products listed in Table I.1 and manufactured in, or imported into the United States starting on January 31, 2029, as recommended in the Joint Agreement.



**Table I.1 Energy Conservation Standards for Miscellaneous Refrigeration Products (Compliance Starting January 31, 2029)**

Product Class (“PC”)	Equations for maximum energy use (kWh/yr)
	Based on AV (ft <sup>3</sup> )
1. Freestanding Compact Coolers (FCC)	5.52AV + 109.1
2. Freestanding Coolers (FC)	5.52AV + 109.1
3. Built-in Compact Coolers (BICC)	5.52AV + 109.1
4. Built-in Coolers (BIC)	6.30AV + 124.6
C-3A. Cooler with all-refrigerator – automatic defrost	4.11AV + 117.4
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	4.67AV + 133.0
C-5-BI. Built-in cooler with refrigerator-freezer – automatic defrost with bottom-mounted freezer	5.47AV + 196.2 + 28I
C-9. Cooler with upright freezer with automatic defrost without an automatic icemaker	5.58AV + 147.7 + 28I
C-9-BI. Built-in cooler with upright freezer with automatic defrost without an automatic icemaker	6.38AV + 168.8 + 28I
C-13A. Compact cooler with all-refrigerator – automatic defrost	4.74AV + 155.0
C-13A-BI. Built-in compact cooler with all-refrigerator – automatic defrost	5.22AV + 170.5
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendices A and B of subpart B of 10 CFR part 430. av = Total adjusted volume, expressed in Liters. I = 1 for a product with an automatic icemaker and = 0 for a product without an automatic icemaker.	

## II. Introduction

The following section briefly discusses the statutory authority underlying this proposed rule, as well as some of the relevant historical background related to the establishment of standards for MREFs.

### A. Authority

EPCA authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. Title III, Part B of EPCA<sup>6</sup> established the

<sup>6</sup> For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.

Energy Conservation Program for Consumer Products Other Than Automobiles, which, in addition to identifying particular consumer products and commercial equipment as covered under the statute, permits the Secretary of Energy to classify additional types of consumer products as covered products. (42 U.S.C. 6292(a)(20)) DOE added MREFs as covered products through a final determination of coverage published in the *Federal Register* on July 18, 2016 (the “July 2016 Final Coverage Determination”). 81 FR 46768. MREFs are consumer refrigeration products other than refrigerators, refrigerator-freezers, or freezers, which include coolers and combination cooler refrigeration products. 10 CFR 430.2. MREFs include refrigeration products such as coolers (*e.g.*, wine chillers and other specialty products) and combination cooler refrigeration products (*e.g.*, wine chillers and other specialty compartments combined with a refrigerator, refrigerator-freezers, or freezers). EPCA further provides 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 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)) Not later than three years after 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))

The energy conservation program under EPCA, consists essentially of four parts: (1) testing, (2) labeling, (3) the establishment of Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of the 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 EPCA. (*See* 42 U.S.C. 6297(d))

Subject to certain criteria and conditions, DOE is required to develop test procedures to measure the energy efficiency, energy use, or estimated annual operating cost of each covered product. (42 U.S.C. 6295(o)(3)(A) and 42 U.S.C. 6295(r)) Manufacturers of covered products must use the prescribed DOE test procedure as the basis for certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA and when making representations to the public regarding the energy use or efficiency of those products. (42 U.S.C. 6293(c) and 6295(s)) Similarly, DOE must use these test procedures to determine whether the products comply with standards adopted pursuant to EPCA. (42 U.S.C. 6295(s)) The DOE test procedure for MREFs appears at appendix A (*Uniform Test Method for Measuring the Energy Consumption of Refrigerators, Refrigerator-Freezers, and Miscellaneous Refrigeration Products*).

DOE must follow specific statutory criteria for prescribing new or amended standards for covered products, including MREFs. Any new or amended standard for a covered product must be designed to achieve the maximum improvement in energy efficiency that the Secretary of Energy (“Secretary”) determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A) and 42 U.S.C. 6295(o)(3)(B)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6295(o)(3))

Moreover, DOE may not prescribe a standard (1) for certain products, including MREFs, if no test procedure has been established for the product, or (2) if DOE determines by rule that the standard is not technologically feasible or economically justified. (42 U.S.C. 6295(o)(3)(A)–(B)) In deciding whether a proposed standard is economically justified, DOE must determine whether the benefits of the standard exceed its burdens. (42 U.S.C. 6295(o)(2)(B)(i)) DOE must make this determination after receiving comments on the proposed standard, and by considering, to the greatest extent practicable, the following seven statutory factors:

- (1) The economic impact of the standard on manufacturers and consumers of the products subject to the standard;
- (2) The savings in operating costs throughout the estimated average life of the covered products in the type (or class) compared to any increase in the price, initial charges, or maintenance expenses for the covered products that are likely to result from the standard;

- (3) The total projected amount of energy (or as applicable, water) savings likely to result directly from the standard;
- (4) Any lessening of the utility or the performance of the covered 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 considers relevant.

(42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII))

Further, EPCA, as codified, establishes a rebuttable presumption that a standard is economically justified if the Secretary finds that the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy savings during the first year that the consumer will receive as a result of the standard, as calculated under the applicable test procedure.

(42 U.S.C. 6295(o)(2)(B)(iii))

EPCA, as codified, also contains what is known as an “anti-backsliding” provision, which prevents the Secretary from prescribing any amended standard that either increases the maximum allowable energy use or decreases the minimum required energy efficiency of a covered product. (42 U.S.C. 6295(o)(1)) Also, the Secretary may not prescribe an amended or new standard if interested persons have established by a preponderance of the evidence that the standard is likely to result in the unavailability in

the United States in any covered product type (or class) of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6295(o)(4))

EPCA specifies requirements when promulgating an energy conservation standard for a covered product that has two or more subcategories. A rule prescribing an energy conservation standard for a type (or class) of product must specify a different standard level for a type or class of products that has the same function or intended use if DOE determines that products within such group (A) consume a different kind of energy from that consumed by other covered products within such type (or class); or (B) have a capacity or other performance-related feature which other products within such type (or class) do not have and such feature justifies a higher or lower standard. (42 U.S.C. 6295(q)(1)) In determining whether a performance-related feature justifies a different standard for a group of products, DOE considers such factors as the utility to the consumer of such a feature and other factors DOE deems appropriate. (*Id.*) Any rule prescribing such a standard must include an explanation of the basis on which such higher or lower level was established. (42 U.S.C. 6295(q)(2))

Additionally, pursuant to the amendments contained in the Energy Independence and Security Act of 2007 (“EISA 2007”), Public Law 110-140, any final rule for new or amended energy conservation standards promulgated after July 1, 2010, are required to address standby mode and off mode energy use. (42 U.S.C. 6295(gg)(3)) Specifically, when DOE adopts a standard for a covered product after that date, it must, if justified by the criteria for adoption of standards under EPCA (42 U.S.C. 6295(o)), incorporate

standby mode and off mode energy use into a single standard, or, if that is not feasible, adopt a separate standard for such energy use for that product. (42 U.S.C.

6295(gg)(3)(A)–(B)) DOE’s current test procedure for MREFs addresses standby mode and off mode energy use. The standards proposed in this NOPR incorporate standby and off mode energy use.

Finally, EISA 2007 amended EPCA, in relevant part, to grant DOE authority to issue a final rule (*i.e.*, a “direct final rule”) establishing an energy conservation standard upon receipt of a statement submitted jointly by interested persons that are fairly representative of relevant points of view (including representatives of manufacturers of covered products, States, and efficiency advocates), as determined by the Secretary, that contains recommendations with respect to an energy or water conservation standard. (42 U.S.C. 6295(p)(4)) Pursuant to 42 U.S.C. 6295(p)(4), the Secretary must also determine whether a jointly-submitted recommendation for an energy or water conservation standard satisfies 42 U.S.C. 6295(o) or 42 U.S.C. 6313(a)(6)(B), as applicable.

A NOPR that proposes an identical energy efficiency standard must be published simultaneously with the direct final rule, and DOE must provide a public comment period of at least 110 days on this proposal. (42 U.S.C. 6295(p)(4)(A)–(B)) Based on the comments received during this period, the direct final rule will either become effective, or DOE will withdraw it not later than 120 days after its issuance if: (1) one or more adverse comments is received, and (2) DOE determines that those comments, when viewed in light of the rulemaking record related to the direct final rule, may provide a reasonable basis for withdrawal of the direct final rule under 42 U.S.C. 6295(o). (42

U.S.C. 6295(p)(4)(C)) Receipt of an alternative joint recommendation may also trigger a DOE withdrawal of the direct final rule in the same manner. (*Id.*) After withdrawing a direct final rule, DOE must proceed with the NOPR published simultaneously with the direct final rule and publish in the *Federal Register* the reasons why the direct final rule was withdrawn. (*Id.*)

DOE has previously explained its interpretation of its direct final rule authority. In a final rule amending the Department’s “Procedures, Interpretations and Policies for Consideration of New or Revised Energy Conservation Standards for Consumer Products” at 10 CFR part 430, subpart C, appendix A, DOE noted that it may issue standards recommended by interested persons that are fairly representative of relative points of view as a direct final rule when the recommended standards are in accordance with 42 U.S.C. 6295(o) or 42 U.S.C. 6313(a)(6)(B), as applicable. 86 FR 70892, 70912 (Dec. 13, 2021). But the direct final rule provision in EPCA, under which this proposed rule is issued, does not impose additional requirements applicable to other standards rulemakings, which is consistent with the unique circumstances of rules issued as consensus agreements under DOE’s direct final rule authority. *Id.* DOE’s discretion remains bounded by its statutory mandate to adopt a standard that results in the maximum improvement in energy efficiency that is technologically feasible and economically justified—a requirement found in 42 U.S.C. 6295(o). *Id.* As such, DOE’s review and analysis of the Joint Agreement is limited to whether the recommended standards satisfy the criteria in 42 U.S.C. 6295(o).



## *B. Background*

### 1. Current Standards

In a direct final rule published on October 28, 2016 (“October 2016 Direct Final Rule”), DOE prescribed the current energy conservation standards for MREFs manufactured on and after October 28, 2019. 81 FR 75194. These standards are set forth in DOE’s regulations at 10 CFR 430.32(a)(1)-(2). These standards are consistent with a negotiated term sheet submitted to DOE by interested parties representing manufacturers, energy and environmental advocates, and consumer groups.<sup>7</sup>

### 2. Current Test Procedures

On October 12, 2021, DOE published a test procedure final rule (“October 2021 TP Final Rule”) establishing test procedures for MREFs, at appendix A. 86 FR 56790. The test procedure amendments included adopting the latest version of the relevant industry standard published by the Association of Home Appliance Manufacturers (“AHAM”), updated in 2019, AHAM Standard HRF-1, “Energy and Internal Volume of Refrigerating Appliances” (“HRF-1-2019”). 10 CFR 430.3(i)(4). The standard levels adopted in this direct final rule are based on the annual energy use (“AEU”) metrics as measured according to appendix A.

### 3. History of Standards Rulemaking for MREFs

On April 1, 2015, DOE published a notice announcing its intention to establish a negotiated rulemaking working group under the Appliance Standards Rulemaking

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<sup>7</sup> The negotiated term sheets are available in docket ID EERE–2011–BT–STD–0043 on [www.regulations.gov](http://www.regulations.gov).

Advisory Committee (“ASRAC”) to negotiate energy conservation standards for refrigeration products such as wine chillers. 80 FR 17355. DOE then created a working group of interested parties to develop a series of recommended energy conservation standards for MREFs. On July 18, 2016, DOE published the July 2016 Final Coverage Determination that added MREFs as covered products. 81 FR 46768. In that determination, DOE noted that MREFs, on average, consume more than 150 kilowatt-hours per year (“kWh/yr”) and that the aggregate annual national energy use of these products exceeds 4.2 terawatt hours (“TWh”). 81 FR 46768, 46775. In addition to establishing coverage, the July 2016 Final Coverage Determination established definitions for “miscellaneous refrigeration products,” “coolers,” and “combination cooler refrigeration products” in 10 CFR 430.2. 81 FR 46768, 46791-46792.

On October 28, 2016, a negotiated term sheet containing a series of recommended standards and other related recommendations were submitted to ASRAC for approval and, subsequently, DOE published the October 2016 Direct Final Rule adopting energy conservation standards consistent with the recommendations contained in the term sheet. 81 FR 75194. Concurrent with the October 2016 Direct Final Rule, DOE published a NOPR in which it proposed and requested comments on the standards set forth in the direct final rule. 81 FR 74950. On May 26, 2017, DOE published a notice in the *Federal Register* in which it determined that the comments received in response to the October 2016 Direct Final Rule did not provide a reasonable basis for withdrawing the rule and, therefore, confirmed the adoption of the energy conservation standards established in that direct final rule. 82 FR 24214.

#### 4. The Joint Agreement

On September 25, 2023, DOE received a joint statement of recommended standards (*i.e.*, the Joint Agreement) for various consumer products, including MREFs, submitted jointly by groups representing manufacturers, energy and environmental advocates, consumer groups, and a utility.<sup>8</sup> In addition to the recommended standards for MREFs, the Joint Agreement also included separate recommendations for several other covered products.<sup>9</sup> And, while acknowledging that DOE may implement these recommendations in separate rulemakings, the Joint Agreement also stated that the recommendations were recommended as a complete package, and each recommendation is contingent upon the other parts being implemented. DOE understands this to mean that the Joint Agreement is contingent upon DOE initiating rulemaking processes to adopt all of the recommended standards in the agreement. That is distinguished from an agreement where issuance of an amended energy conservation standard for a covered product is contingent on issuance of amended energy conservation standards for the other covered products. If the Joint Agreement were so construed, it would conflict with the anti-backsliding provision in 42 U.S.C. 6295(o)(1), because it would imply the possibility that, if DOE were unable to issue an amended standard for a certain product, it would

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<sup>8</sup> The signatories to the Joint Agreement include AHAM, American Council for an Energy-Efficient Economy, Alliance for Water Efficiency, Appliance Standards Awareness Project, Consumer Federation of America, Consumer Reports, Earthjustice, National Consumer Law Center, Natural Resources Defense Council, Northwest Energy Efficiency Alliance, and Pacific Gas and Electric Company. Members of AHAM's Major Appliance Division that manufacture the affected products include: Alliance Laundry Systems, LLC; Asko Appliances AB; Beko US Inc.; Brown Stove Works, Inc.; BSH; Danby Products, Ltd.; Electrolux Home Products, Inc.; Elicamex S.A. de C.V.; Faber; Fotile America; GEA, a Haier Company; L'Atelier Paris Haute Design LIG; LGEUSA; Liebherr USA, Co.; Midea America Corp.; Miele, Inc.; Panasonic Appliances Refrigeration Systems (PAPRSA) Corporation of America; Perlick Corporation; Samsung; Sharp Electronics Corporation; Smeg S.p.A; Sub-Zero Group, Inc.; The Middleby Corporation; U-Line Corporation; Viking Range, LLC; and Whirlpool.

<sup>9</sup> The Joint Agreement contained recommendations for six covered products: refrigerators, refrigerator-freezers, and freezers; residential clothes washers; consumer clothes dryers; dishwashers; consumer conventional cooking products; and miscellaneous refrigeration products.

have to withdraw a previously issued standard for one of the other products. The anti-backsliding provision, however, prevents DOE from withdrawing or amending an energy conservation standard to be less stringent. As a result, DOE will be proceeding with individual rulemakings that will evaluate each of the recommended standards separately under the applicable statutory criteria. The Joint Agreement recommends amended standard levels for MREFs as presented in Table II.1. (Joint Agreement, No. 34 at p. 4) Details of the Joint Agreement recommendations for other products are provided in the Joint Agreement posted in the docket.<sup>10</sup>

**Table II.1 Recommended Amended Energy Conservation Standards for Miscellaneous Refrigeration Products**

Product Class	Level (Based on AV (ft <sup>3</sup> ))	Compliance Date
1. Freestanding Compact Coolers (FCC)	5.52AV +109.1	January 31, 2029
2. Freestanding Coolers (FC)	5.52AV +109.1	January 31, 2029
3. Built-in Compact Coolers (BICC)	5.52AV +109.1	January 31, 2029
4. Built-in Coolers (BIC)	6.30AV + 124.6	January 31, 2029
C-3A. Cooler with all-refrigerator – automatic defrost	4.11AV + 117.4	January 31, 2029
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	4.67AV + 133.0	January 31, 2029
C-5-BI. NEW PRODUCT CLASS: Built-in cooler with refrigerator-freezer – automatic defrost with bottom-mounted freezer	5.47AV + 196.2 +28I	January 31, 2029
C-9. Cooler with upright freezer with automatic defrost without an automatic icemaker	5.58AV + 147.7 + 28I	January 31, 2029
C-9-BI. Built-in cooler with upright freezer with automatic defrost without an automatic icemaker	6.38AV + 168.8 + 28I	January 31, 2029
C-13A. Compact cooler with all-refrigerator – automatic defrost	4.74AV + 155.0	January 31, 2029
C-13A-BI. Built-in compact cooler with all-refrigerator – automatic defrost	5.22AV + 170.5	January 31, 2029
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendices A and B of subpart B of 10 CFR part 430.		

<sup>10</sup> The Joint Agreement is available in the docket at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0034](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0034).

I = 1 for a product with an automatic icemaker and = 0 for a product without an automatic icemaker.
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DOE has evaluated the Joint Agreement and believes that it meets the EPCA requirements for issuance of a direct final rule. As a result, DOE published a direct final rule establishing energy conservation standards for MREFs elsewhere in this issue of the *Federal Register*. If DOE receives adverse comments that may provide a reasonable basis for withdrawal and withdraws the direct final rule, DOE will consider those comments and any other comments received in determining how to proceed with this proposed rule.

For further background information on these proposed standards and the supporting analyses, please see the direct final rule published elsewhere in this issue of the *Federal Register*. That document, and the accompanying technical support document (“TSD”). Those documents contain an in-depth discussion of the analyses conducted in evaluating the Joint Agreement, the methodologies DOE used in conducting those analyses, and the analytical results.

DOE also notes that it was conducting a rulemaking to consider amending the standards for MREFs when the Joint Agreement was submitted. As part of that process, DOE published a NOPR and announced a public meeting on March 31, 2023 (“March 2023 NOPR”) seeking comment on its proposed amended standards to inform its decision consistent with its obligations under EPCA and the Administrative Procedure Act (“APA”). 88 FR 19382. DOE held a public webinar on May 2, 2023, to discuss and

receive comments on the March 2023 NOPR and NOPR TSD (“May 2, 2023, public meeting”). The NOPR TSD is available at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0026](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0026). The March 2023 NOPR proposed amended standards defined in terms of the AEU metrics as measured according to appendix A. *Id.* at 88 FR 19383-19384.

### **III. Proposed Standards**

When considering new or amended energy conservation standards, the standards that DOE adopts for any type (or class) of covered product must be designed to achieve the maximum improvement in energy efficiency that the Secretary determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) In determining whether a standard is economically justified, the Secretary must determine whether the benefits of the standard exceed its burdens by, to the greatest extent practicable, considering the seven statutory factors discussed previously. (42 U.S.C. 6295(o)(2)(B)(i)) The new or amended standard must also result in significant conservation of energy. (42 U.S.C. 6295(o)(3)(B))

DOE considered the impacts of proposed standards for MREFs at each trial standard level (“TSL”), beginning with the maximum technologically feasible (“max-tech”) level, to determine whether that level was economically justified. Where the max-tech level was not justified, DOE then considered the next most efficient level and undertook the same evaluation until it reached the highest efficiency level that is both

technologically feasible and economically justified and saves a significant amount of energy. DOE refers to this process as the “walk-down” analysis.

To aid the reader as DOE discusses the benefits and/or burdens of each TSL, tables in this section present a summary of the results of DOE’s quantitative analysis for each TSL. In addition to the quantitative results presented in the tables, DOE also considers other burdens and benefits that affect economic justification. These include the impacts on identifiable subgroups of consumers who may be disproportionately affected by a national standard and impacts on employment.

DOE also notes that the economics literature provides a wide-ranging discussion of how consumers trade off upfront costs and energy savings in the absence of government intervention. Much of this literature attempts to explain why consumers appear to undervalue energy efficiency improvements. There is evidence that consumers undervalue future energy savings as a result of (1) a lack of information; (2) a lack of sufficient salience of the long-term or aggregate benefits; (3) a lack of sufficient savings to warrant delaying or altering purchases; (4) excessive focus on the short term, in the form of inconsistent weighting of future energy cost savings relative to available returns on other investments; (5) computational or other difficulties associated with the evaluation of relevant tradeoffs; and (6) a divergence in incentives (for example, between renters and owners, or builders and purchasers). Having less than perfect foresight and a high degree of uncertainty about the future, consumers may trade off these types of investments at a higher-than-expected rate between current consumption and uncertain future energy cost savings.

In DOE’s current regulatory analysis, potential changes in the benefits and costs of a regulation due to changes in consumer purchase decisions are included in two ways. First, if consumers forgo the purchase of a product in the standards case, this decreases sales for product manufacturers, and the impact on manufacturers attributed to lost revenue is included in the manufacturer impact analysis (“MIA”). Second, DOE accounts for energy savings attributable only to products actually used by consumers in the standards case; if a standard decreases the number of products purchased by consumers, this decreases the potential energy savings from an energy conservation standard. DOE provides estimates of shipments and changes in the volume of product purchases in chapter 9 of the direct final rule TSD<sup>11</sup> available in the docket for this rulemaking. However, DOE’s current analysis does not explicitly control for heterogeneity in consumer preferences, preferences across subcategories of products or specific features, or consumer price sensitivity variation according to household income.<sup>12</sup>

DOE continues to explore additional potential updates to the quantifiable framework for estimating the benefits and costs of changes in consumer purchase decisions due to an energy conservation standard, and DOE is committed to developing a framework that can support empirical quantitative tools for improved assessment of the consumer welfare impacts of appliance standards. DOE has posted a paper that discusses the issue of consumer welfare impacts of appliance energy conservation standards, and potential enhancements to the methodology by which these impacts are defined and

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<sup>11</sup> The TSD is available in the docket for this rulemaking at [www.regulations.gov/document/EERE-2017-BT-STD-0003-0046/document](http://www.regulations.gov/document/EERE-2017-BT-STD-0003-0046/document).

<sup>12</sup> P.C. Reiss and M.W. White. Household Electricity Demand, Revisited. *Review of Economic Studies*. 2005. 72(3): pp. 853–883. doi: 10.1111/0034-6527.00354.



estimated in the regulatory process.<sup>12</sup> DOE welcomes comments on how to more fully assess the potential impact of energy conservation standards on consumer choice and how to quantify this impact in its regulatory analysis in future rulemakings.

*A. Benefits and Burdens of TSLs Considered for MREF Standards*

Table III.1 and Table III.2 summarize the quantitative impacts estimated for each TSL for MREFs. The national impacts are measured over the lifetime of MREFs purchased in the 30-year period that begins in the anticipated year of compliance with amended standards (2029–2058). The energy savings, emissions reductions, and value of emissions reductions refer to full-fuel-cycle (“FFC”) results. DOE is presenting monetized benefits of greenhouse gas (“GHG”) emissions reductions in accordance with the applicable Executive orders and DOE would reach the same conclusion presented in this document in the absence of the social cost of GHGs, including the Interim Estimates presented by the Interagency Working Group. The efficiency levels contained in each TSL are described in section V.A of the direct final rule published elsewhere in this issue of the *Federal Register*.

**Table III.1 Summary of Analytical Results for Miscellaneous Refrigeration Product TSLs: National Impacts for Products Shipped 2029-2058**

Category	TSL 1	TSL 2	TSL 3	TSL 4	TSL 5
<b>Cumulative FFC National Energy Savings</b>					
Quads	0.10	0.20	0.22	0.32	0.55
<b>Cumulative FFC Emissions Reduction</b>					
CO <sub>2</sub> ( <i>million metric tons</i> )	1.81	3.66	3.99	5.85	10.03
CH <sub>4</sub> ( <i>thousand tons</i> )	15.02	30.44	33.15	48.64	83.41
N <sub>2</sub> O ( <i>thousand tons</i> )	0.02	0.04	0.04	0.06	0.10
NO <sub>2</sub> ( <i>thousand tons</i> )	3.33	6.75	7.34	10.77	18.47
SO <sub>x</sub> ( <i>thousand tons</i> )	0.57	1.15	1.25	1.84	3.15
Hg ( <i>tons</i> )	0.00	0.01	0.01	0.01	0.02

<b>Present Value of Benefits and Costs (3% discount rate, billion 2022\$)</b>					
Consumer Operating Cost Savings	0.62	1.26	1.37	2.00	3.44
Climate Benefits*	0.10	0.20	0.22	0.32	0.55
Health Benefits**	0.19	0.39	0.42	0.62	1.06
Total Benefits†	0.91	1.85	2.01	2.94	5.04
Consumer Incremental Product Costs‡	0.13	0.54	0.50	1.23	5.12
Consumer Net Benefits	0.49	0.72	0.87	0.77	-1.68
Total Net Benefits	0.78	1.31	1.51	1.71	-0.07
<b>Present Value of Benefits and Costs (7% discount rate, billion 2022\$)</b>					
Consumer Operating Cost Savings	0.27	0.54	0.59	0.86	1.47
Climate Benefits*	0.10	0.20	0.22	0.32	0.55
Health Benefits**	0.08	0.15	0.17	0.24	0.41
Total Benefits†	0.44	0.90	0.97	1.42	2.43
Consumer Incremental Product Costs‡	0.07	0.30	0.28	0.69	2.83
Consumer Net Benefits	0.19	0.24	0.31	0.17	-1.36
Total Net Benefits	0.37	0.60	0.69	0.73	-0.40

Note: This table presents the costs and benefits associated with MREFs shipped during the period 2029–2058. These results include benefits to consumers which accrue after 2058 from the products shipped in 2029–2058.

\* Climate benefits are calculated using four different estimates of the SC-CO<sub>2</sub>, SC-CH<sub>4</sub> and SC-N<sub>2</sub>O. Together, these represent the global SC-GHG. For presentational purposes of this table, the climate benefits associated with the average SC-GHG at a 3 percent discount rate are shown; however, DOE emphasizes the importance and value of considering the benefits calculated using all four sets of SC-GHG estimates. To monetize the benefits of reducing GHG emissions, this analysis uses the interim estimates presented in the *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990* published in February 2021 by the IWG.

\*\* Health benefits are calculated using benefit-per-ton values for NO<sub>x</sub> and SO<sub>2</sub>. DOE is currently only monetizing (for NO<sub>x</sub> and SO<sub>2</sub>) PM<sub>2.5</sub> precursor health benefits and (for NO<sub>x</sub>) ozone precursor health benefits, but will continue to assess the ability to monetize other effects such as health benefits from reductions in direct PM<sub>2.5</sub> emissions. The health benefits are presented at real discount rates of 3 and 7 percent. For more details, see section IV.L of the direct final rule published elsewhere in this issue of the *Federal Register*.

† Total and net benefits include consumer, climate, and health benefits. For presentation purposes, total and net benefits for both the 3-percent and 7-percent cases are presented using the average SC-GHG with 3-percent discount rate.

‡ Costs include incremental equipment costs.

**Table III.2 Summary of Analytical Results for MREFs TSLs: Manufacturer and Consumer Impacts**

Category	TSL 1	TSL 2	TSL 3	TSL 4	TSL 5
<b>Manufacturer Impacts</b>					
Industry NPV (million 2022\$) (No-new-standards case INPV = 807.7)	773.7 to 777.2	758.7 to 770.6	761.9 to 772.1	715.6 to 747.4	386.7 to 524.5
Industry NPV (% change)	(4.2) to (3.8)	(6.1) to (4.6)	(5.7) to (4.4)	(11.4) to (7.5)	(52.1) to (35.1)
<b>Consumer Average LCC Savings (2022\$)</b>					
FCC	17.53	17.55	17.55	12.97	(58.75)

Category	TSL 1	TSL 2	TSL 3	TSL 4	TSL 5
BICC	16.08	1.53	1.53	1.53	(97.38)
FC	21.06	21.06	45.59	26.22	(265.96)
BIC	18.99	19.27	53.56	53.56	(293.40)
C-3A	30.95	30.95	30.95	30.95	(242.46)
C-3A-BI	36.19	36.19	36.19	36.19	(249.95)
C-13A	24.36	37.86	37.86	10.60	(89.25)
Shipment-Weighted Average*	37.52	21.11	25.23	15.24	(99.49)
<b>Consumer Simple PBP (years)</b>					
FCC	2.0	5.0	5.0	6.8	13.0
BICC	2.4	8.1	8.1	8.1	15.4
FC	6.5	6.5	4.2	8.5	29.9
BIC	6.9	9.0	4.4	4.4	31.7
C-3A	1.7	1.7	1.7	1.7	45.4
C-3A-BI	1.6	1.6	1.6	1.6	42.0
C-13A	1.1	1.3	1.3	7.3	19.5
Shipment-Weighted Average*	2.6	4.7	4.3	7.1	17.1
<b>Percent of Consumers that Experience a Net Cost</b>					
FCC	1.9	30.6	30.6	46.8	81.6
BICC	0.9	15.1	15.1	15.1	23.7
FC	10.0	10.0	1.8	44.0	98.2
BIC	19.2	52.7	4.6	4.6	98.4
C-3A	0.0	0.0	0.0	0.0	99.6
C-3A-BI	0.0	0.0	0.0	0.0	99.3
C-13A	0.3	0.6	0.6	47.2	93.9
Shipment-Weighted Average*	3.1	22.9	20.3	43.7	84.5

Parentheses indicate negative (-) values.

\* Weighted by shares of each product class in total projected shipments in 2029.

DOE first considered TSL 5, which represents the max-tech efficiency levels. For coolers (*i.e.*, FCC, FC, BICC, and BIC), which account for approximately 82 percent of MREF shipments, DOE expects that products would require use of vacuum insulated panels (“VIPs”), variable speed compressors (“VSCs”), and triple-glazed doors at this TSL. DOE expects that VIPs would be used in the products’ side walls. In addition, the products would use the best-available-efficiency variable-speed compressors, forced-

convection heat exchangers with multi-speed brushless-DC (“BLDC”) fans, and increase in cabinet wall thickness as compared to most baseline products. TSL 5 would save an estimated 0.55 quadrillion British thermal units (“quads”) of energy, an amount which DOE considers significant. Under TSL 5, the net present value (“NPV”) of consumer benefit would be negative, *i.e.*, -\$1.36 billion using a discount rate of 7 percent, and -\$1.68 billion using a discount rate of 3 percent.

The cumulative emissions reductions at TSL 5 are 10.0 Mt of CO<sub>2</sub>, 3.15 thousand tons of SO<sub>2</sub>, 18.5 thousand tons of NO<sub>x</sub>, 0.02 tons of Hg, 83.4 thousand tons of CH<sub>4</sub>, and 0.10 thousand tons of N<sub>2</sub>O. The estimated monetary value of the climate benefits from reduced GHG emissions (associated with the average SC-GHG at a 3-percent discount rate) at TSL 5 is \$0.6 billion. The estimated monetary value of the health benefits from reduced SO<sub>2</sub> and NO<sub>x</sub> emissions at TSL 5 is \$0.4 billion using a 7-percent discount rate and \$1.1 billion using a 3-percent discount rate.

Using a 7-percent discount rate for consumer benefits and costs, health benefits from reduced SO<sub>2</sub> and NO<sub>x</sub> emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated total NPV at TSL 5 is -\$0.4 billion. Using a 3-percent discount rate for all benefits and costs, the estimated total NPV at TSL 5 is -\$0.07 billion. The estimated total monetized NPV is provided for additional information, however, consistent with the statutory factors and framework for along with appropriate consideration of its full range of statutory factors when determining whether a proposed standard level is economically justified, DOE considers a range of quantitative and qualitative benefits and burdens, including the costs and cost savings for

consumers, impacts to consumer subgroups, energy savings, emission reductions, and impacts on manufacturers.

At TSL 5, for the product classes with the largest market share, which are FCC, FC, and C-13A and together account for approximately 92 percent of annual shipments, the life-cycle cost (“LCC”) savings are all negative (-\$45.3, -\$178.8, and -\$73.4, respectively) and their payback periods are 13.0 years, 29.9 years, and 19.5 years, respectively, which are all longer than their corresponding average lifetimes. For these product classes, the fraction of consumers experiencing a net LCC cost is 81.6 percent, 98.2 percent, and 93.9 percent due to increases in first cost of \$185.0, \$420.5, and \$167.5, respectively. Overall, a majority of MREF consumers (84.5 percent) would experience a net cost and the average LCC savings would be negative for all analyzed product classes.

At TSL 5, the projected change in industry net present value (“INPV”) ranges from a decrease of \$421.0 million to a decrease of \$283.2 million, which corresponds to decreases of 51.2 percent and 35.1 percent, respectively. DOE estimates that industry must invest \$555.1 million to comply with standards set at TSL 5.

DOE estimates that approximately 2.9 percent of current MREF shipments meet the max-tech levels. For FCC, FC, and C-13A, which together account for approximately 92 percent of annual shipments, DOE estimates that zero shipments currently meet max-tech efficiencies.

At TSL 5, manufacturers would likely need to implement all the most efficient design options analyzed in the engineering analysis. Manufacturers that do not currently offer products that meet TSL 5 efficiencies would need to develop new product platforms, which would require significant investment. Conversion costs are driven by the need for changes to cabinet construction, such as increasing foam insulation thickness and/or incorporating VIP technology. Increasing insulation thickness could result in a loss of interior volume or an increase in exterior volume. If manufacturers chose to maintain exterior dimensions, increasing insulation thickness would require redesign of the cabinet as well as the designs and tooling associated with the interior of the product, such as the liner, shelving, racks, and drawers. Incorporating VIPs into MREF designs could also require redesign of the cabinet to maximize the efficiency benefit of this technology. In addition to insulation changes, manufacturers may need to implement triple-pane glass, which could require implementing reinforced hinges and redesigning the door structure.

At this level, DOE estimates a 13-percent drop in shipments in the year the standard takes effect compared to the no-new-standards case, as some consumers may forgo purchasing a new MREF due to the increased upfront cost of baseline models.

At TSL 5, the Secretary tentatively concludes that the benefits of energy savings, emission reductions, and the estimated monetary value of the emissions reductions would be outweighed by the economic burden on many consumers, negative NPV of consumer benefits, and the impacts on manufacturers, including the significant potential reduction in INPV. A majority of MREF consumers (84.5 percent) would experience a net cost and

the average LCC savings would be negative. Additionally, manufacturers would need to make significant upfront investments to update product platforms. The potential reduction in INPV could be as high as 52.1 percent. Consequently, the Secretary has tentatively concluded that TSL 5 is not economically justified.

DOE then considered the Recommended TSL (*i.e.*, TSL 4) which represents efficiency level (“EL”) 3 for all analyzed product classes except for C-3A and C-3A-BI, for which this TSL corresponds to EL 1, and BIC, for which this TSL corresponds to EL 2. At the Recommended TSL, products of most classes would use high-efficiency single-speed compressors with forced-convection evaporators and condensers using brushless-DC fan motors. Doors would be double-glazed with low-conductivity gas fill (*e.g.*, argon) and a single low-emissivity glass layer. Products would not require use of VIPs, but the FC product class would require thicker walls than corresponding baseline products. The Recommended TSL would save an estimated 0.32 quads of energy, an amount DOE considers significant. Under the Recommended TSL, the NPV of consumer benefit would be \$0.17 billion using a discount rate of 7 percent, and \$0.77 billion using a discount rate of 3 percent.

The cumulative emissions reductions at the Recommended TSL are 5.9 Mt of CO<sub>2</sub>, 1.8 thousand tons of SO<sub>2</sub>, 10.8 thousand tons of NO<sub>x</sub>, 0.01 tons of Hg, 48.6 thousand tons of CH<sub>4</sub>, and 0.06 thousand tons of N<sub>2</sub>O. The estimated monetary value of the climate benefits from reduced GHG emissions (associated with the average SC-GHG at a 3-percent discount rate) at the Recommended TSL is \$0.3 billion. The estimated monetary value of the health benefits from reduced SO<sub>2</sub> and NO<sub>x</sub> emissions at the

Recommended TSL is \$0.2 billion using a 7-percent discount rate and \$0.6 billion using a 3-percent discount rate.

Using a 7-percent discount rate for consumer benefits and costs, health benefits from reduced SO<sub>2</sub> and NO<sub>x</sub> emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated total NPV at the Recommended TSL is \$0.7 billion. Using a 3-percent discount rate for all benefits and costs, the estimated total NPV at the Recommended TSL is \$1.7 billion. The estimated total monetized NPV is provided for additional information, however, consistent with the statutory factors and framework for determining whether a standard level is economically justified, DOE considers a range of quantitative and qualitative benefits and burdens, including the costs and cost savings for consumers, impacts to consumer subgroups, energy savings, emission reductions, and impacts on manufacturers.

At the Recommended TSL, for the product classes with the largest market share, which are FCC, FC, and C-13A, the LCC savings are \$12.6, \$28.0, and \$12.0, respectively, and their payback periods are 6.8 years, 8.5 years, and 7.3 years, respectively, which are all shorter than their corresponding average lifetimes. For these product classes, the fraction of consumers experiencing a net LCC cost is 46.8 percent, 44.0 percent, and 47.2 percent, and increases in first cost for these classes are \$91.7, \$360.9, and \$124.3, respectively. Overall, the LCC savings would be positive for all MREF product classes, and, while 43.7 percent of MREF consumers would experience a net cost, slightly more than half of MREF consumers would experience a net benefit (52.9 percent).



At the Recommended TSL (*i.e.*, TSL 4), the projected change in INPV ranges from a decrease of \$92.1 million to a decrease of \$60.3 million, which correspond to decreases of 11.4 percent and 7.5 percent, respectively. DOE estimates that industry must invest \$130.7 million to comply with standards set at Recommended TSL.

DOE estimates that approximately 3.9 percent of shipments currently meet the efficiencies required at the Recommended TSL. For most product classes (*i.e.*, FCC, BICC, BIC, C-13A, C-13A-BI, C-3A, C-3A-BI), DOE expects manufacturers could reach the required efficiencies with relatively straightforward component swaps, such as implementing incrementally more efficient compressors, rather than the full platform redesigns required at max-tech. DOE expects that FC manufacturers would need to increase foam insulation thickness and incorporate variable-speed compressor systems at this level. At the Recommended TSL, DOE estimates a 4-percent drop in shipments in the year the standard takes effect compared to the no-new-standards case, as some consumers may forgo purchasing a new MREF due to the increased upfront cost of baseline models.

After considering the analysis and weighing the benefits and burdens, the Secretary has tentatively concluded that a potential standard set at the Recommended TSL for MREFs would be economically justified. At this TSL, the average LCC savings are positive for all product classes for which an amended standard is considered, with a shipment-weighted average of \$15.2 savings. The FFC national energy savings are significant and the NPV of consumer benefits is positive using both a 3-percent and 7-percent discount rate. The standard levels at TSL 4 are economically justified even

without weighing the estimated monetary value of emissions reductions. When those emissions reductions are included – representing \$0.3 billion in climate benefits (associated with the average SC-GHG at a 3-percent discount rate), and \$0.6 billion (using a 3-percent discount rate) or \$0.2 billion (using a 7-percent discount rate) in health benefits – the rationale becomes stronger still.

As stated, DOE conducts the walk-down analysis to determine the TSL that represents the maximum improvement in energy efficiency that is technologically feasible and economically justified as required under EPCA. The walk-down is not a comparative analysis, as a comparative analysis would result in the maximization of net benefits instead of energy savings that are technologically feasible and economically justified, which would be contrary to the statute. *See* 86 FR 70892, 70908. Although DOE has not conducted a comparative analysis to select the proposed energy conservation standards, DOE notes that the Recommended TSL represents the option with positive LCC savings (\$15.2) for all product classes compared to TSL 5 (-\$99.5). Further, when comparing the cumulative NPV of consumer benefit using a 7-percent discount rate, TSL 4 (\$0.7 billion) has a higher benefit value than TSL 5 (-\$0.4 billion), while for a 3-percent discount rate, TSL 4 (\$1.7 billion) is also higher than TSL 5 (-\$0.07 billion), which yields negative NPV in both cases. These additional savings and benefits at the Recommended TSL are significant. DOE considers the impacts to be, as a whole, economically justified at the Recommended TSL.

Although DOE considered amended standard levels for MREFs by grouping the efficiency levels for each product class into TSLs, DOE evaluates all analyzed efficiency

levels in its analysis. TSL 4, the Recommended TSL and the one proposed here, includes an EL for BIC that is lower than the EL at TSL 2. That is because TSL 2 represents ENERGY STAR for all product classes for which an ENERGY STAR criterion exists, including EL 3 for BIC and EL2 for C-3A-BI. As such, DOE analyzed TSL 2 with a higher efficiency level for BIC than TSL 4 because of the ENERGY STAR criterion. TSL 4 also includes an EL for C-3A-BI, EL1, that is lower than another EL, EL2, considered but not discussed as part of DOE's consideration of TSL 5. DOE has considered standards at those ELs for those products and found them not to be economically justified. For all product classes, except for BIC and C-3A-BI, the amended standard level represents the maximum energy savings that does not result in negative LCC savings. For BIC and C-3A-BI, the standard level represents the maximum energy savings that is economically justified; for these classes, DOE examined higher ELs, which were not included in TSL 4 (EL3 and EL2, respectively). Although these ELs have positive LCC savings, they would result in a majority of purchasers experiencing a net cost (53 percent and 57 percent, respectively). Further, for BIC products, DOE expects some manufacturers would likely need to increase insulation thickness to meet efficiency levels above EL 2, which could require new cabinet designs and fixtures. Due to the high percentage of consumers with a net cost and the extensive redesigns that would be needed to support EL3 for BIC and EL2 for C-3A-BI, DOE has tentatively concluded that efficiency level 3 for BIC and efficiency level 2 for C-3A-BI is not economically justified. However, at the Recommended TSL (EL 2 for BIC), DOE expects manufacturers could likely meet the efficiency level required for BIC without significant redesign. The ELs at the proposed standard level result in positive LCC

savings for all product classes and reduce the decrease in INPV and conversion costs to the point where DOE has tentatively concluded they are economically justified, as discussed for the Recommended TSL in the preceding paragraphs.

Therefore, based on the previous considerations, DOE proposes to adopt the energy conservation standards for MREFs at the Recommended TSL.

While DOE considered each potential TSL under the criteria laid out in 42 U.S.C. 6295(o) as discussed in the preceding paragraphs, DOE notes that the Recommended TSL for MREFs in this direct final rule is part of a multi-product Joint Agreement covering six rulemakings (refrigerators, refrigerator-freezers, and freezers (“RFs”); MREFs; conventional cooking products; residential clothes washers; consumer clothes dryers; and dishwashers). The signatories indicate that the Joint Agreement for the six rulemakings should be considered as a joint statement of recommended standards, to be adopted in its entirety. As discussed in section V.B.2.e of the direct final rule published elsewhere in this issue of the *Federal Register*, many MREF OEMs also manufacture RFs, conventional cooking products, residential clothes washers, consumer clothes dryers, and dishwashers. Rather than requiring compliance with five amended standards in a single year (2027),<sup>13</sup> the negotiated multi-product Joint Agreement staggers the compliance dates for the five amended standards over a 4-year period (2027-2030). DOE understands that the compliance dates recommended in the Joint Agreement would help

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<sup>13</sup> The refrigerators, refrigerator-freezers, and freezers rulemaking (88 FR 12452); consumer conventional cooking products rulemaking (88 FR 6818); residential clothes washers rulemaking (88 FR 13520); consumer clothes dryers rulemaking (87 FR 51734); and dishwashers rulemaking (88 FR 32514) utilized a 2027 compliance year for analysis at the proposed rule stage. The miscellaneous refrigeration products rulemaking (88 FR 12452) utilized a 2029 compliance year for the NOPR analysis.

reduce cumulative regulatory burden. These compliance dates help relieve concern on the part of some manufacturers about their ability to allocate sufficient resources to comply with multiple concurrent amended standards, about the need to align compliance dates for products that are typically designed or sold as matched pairs, and about the ability of their suppliers to ramp up production of key components. The Joint Agreement also provides additional years of regulatory certainty for manufacturers and their suppliers while still achieving the maximum improvement in energy efficiency that is technologically feasible and economically justified.

The proposed energy conservation standards for MREFs, which are expressed in kWh/yr, are shown in Table III.3.

**Table III.3 Proposed Energy Conservation Standards for Miscellaneous Refrigeration Products (Compliance Starting January 31, 2029)**

Product Class	Equations for maximum energy use (kWh/yr)
	Based on AV (ft <sup>3</sup> )
1. Freestanding Compact Coolers (“FCC”)	$5.52AV + 109.1$
2. Freestanding Coolers (“FC”)	$5.52AV + 109.1$
3. Built-in Compact Coolers (“BICC”)	$5.52AV + 109.1$
4. Built-in Coolers (“BIC”)	$6.30AV + 124.6$
C-3A. Cooler with all-refrigerator – automatic defrost	$4.11AV + 117.4$
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	$4.67AV + 133.0$
C-5-BI. NEW PRODUCT CLASS: Built-in cooler with refrigerator-freezer – automatic defrost with bottom-mounted freezer	$5.47AV + 196.2 + 28I$
C-9. Cooler with upright freezer with automatic defrost without an automatic icemaker	$5.58AV + 147.7 + 28I$
C-9-BI. Built-in cooler with upright freezer with automatic defrost without an automatic icemaker	$6.38AV + 168.8 + 28I$
C-13A. Compact cooler with all-refrigerator – automatic defrost	$4.74AV + 155.0$
C-13A-BI. Built-in compact cooler with all-refrigerator – automatic defrost	$5.22AV + 170.5$
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	$4.67AV + 133.0$

AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendices A and B of subpart B of 10 CFR part 430. av = Total adjusted volume, expressed in Liters. I = 1 for a product with an automatic icemaker and = 0 for a product without an automatic icemaker.
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### *B. Annualized Benefits and Costs of the Proposed Standards*

The benefits and costs of the proposed standards can also be expressed in terms of annualized values. The annualized net benefit is (1) the annualized national economic value (expressed in 2022\$) of the benefits from operating products that meet the proposed standards (consisting primarily of operating cost savings from using less energy), minus increases in product purchase costs, and (2) the annualized monetary value of the climate and health benefits from emission reductions.

Table III.4 shows the annualized values for MREFs under the Recommended TSL, expressed in 2022\$. The results under the primary estimate are as follows.

Using a 7-percent discount rate for consumer benefits and costs and NO<sub>x</sub> and SO<sub>2</sub> reduction benefits, and a 3-percent discount rate case for GHG social costs, the estimated cost of the standards for MREFs is \$72.7 million per year in increased product costs, while the estimated annual benefits are \$90.6 million in reduced product operating costs, \$18.3 million in climate benefits, and \$25.6 million in health benefits. The net benefit amounts to \$61.7 million per year. Using a 3-percent discount rate for all benefits and costs, the estimated cost of the proposed standards for MREFs is \$70.8 million per year in increased equipment costs, while the estimated annual benefits are \$115 million in

reduced operating costs, \$18.3 million in climate benefits, and \$35.6 million in health benefits. The net benefit amounts to \$98 million per year.

**Table III.4 Annualized Benefits and Costs of Proposed Standards (TSL 4, the Recommended TSL) for Miscellaneous Refrigeration Products**

	Million 2022\$/year		
	Primary Estimate	Low-Net-Benefits Estimate	High-Net-Benefits Estimate
<b>3% discount rate</b>			
<b>Consumer Operating Cost Savings</b>	115.0	111.5	116.3
<b>Climate Benefits*</b>	18.3	17.7	18.5
<b>Health Benefits**</b>	35.6	34.5	36.0
<b>Total Monetized Benefits †</b>	168.9	163.7	170.7
<b>Consumer Incremental Product Costs‡</b>	70.8	74.9	68.7
<b>Monetized Net Benefits</b>	98.0	88.8	102.0
<b>Change in Producer Cashflow (INPV**)</b>	(7.7) - (5.0)		
<b>7% discount rate</b>			
<b>Consumer Operating Cost Savings</b>	90.6	88.1	91.5
<b>Climate Benefits* (3% discount rate)</b>	18.3	17.7	18.5
<b>Health Benefits**</b>	25.6	24.9	25.8
<b>Total Benefits†</b>	134.4	130.7	135.7
<b>Consumer Incremental Product Costs‡</b>	72.7	75.8	70.9
<b>Net Benefits</b>	61.7	54.9	64.8
<b>Change in Producer Cashflow (INPV**)</b>	(7.7) - (5.0)		

Note: This table presents the costs and benefits associated with MREFs shipped during the period 2029–2058. These results include consumer, climate, and health benefits that accrue after 2058 from the products shipped in 2029–2058. The Primary, Low Net Benefits, and High Net Benefits Estimates utilize projections of energy prices from the *AEO2023* Reference case, Low Economic Growth case, and High Economic Growth case, respectively. In addition, incremental equipment costs reflect a medium decline rate in the Primary Estimate, a low decline rate in the Low Net Benefits Estimate, and a high decline rate in the High Net Benefits Estimate. The methods used to derive projected price trends are explained in section IV.H.3 of the direct final rule published elsewhere in this issue of the *Federal Register*. Note that the Benefits and Costs may not sum to the Net Benefits due to rounding.

\* Climate benefits are calculated using four different estimates of the SC-CO<sub>2</sub>, SC-CH<sub>4</sub> and SC-N<sub>2</sub>O. For presentational purposes of this table, the climate benefits associated with the average SC-GHG at a 3 percent discount rate are shown, but DOE does not have a single central SC-GHG point estimate, and it

emphasizes the importance and value of considering the benefits calculated using all four sets of SC-GHG estimates. To monetize the benefits of reducing GHG emissions, this analysis uses the interim estimates presented in the *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates Under Executive Order 13990* published in February 2021 by the IWG.

\*\* Health benefits are calculated using benefit-per-ton values for NO<sub>x</sub> and SO<sub>2</sub>. DOE is currently only monetizing (for SO<sub>2</sub> and NO<sub>x</sub>) PM<sub>2.5</sub> precursor health benefits and (for NO<sub>x</sub>) ozone precursor health benefits but will continue to assess the ability to monetize other effects such as health benefits from reductions in direct PM<sub>2.5</sub> emissions. See section IV.L of the direct final rule published elsewhere in this issue of the *Federal Register* for more details.

† Total benefits for both the 3-percent and 7-percent cases are presented using the average SC-GHG with 3-percent discount rate, but DOE does not have a single central SC-GHG point estimate.

‡ Costs include incremental equipment costs.

‡‡ Operating Cost Savings are calculated based on the life cycle costs analysis and national impact analysis as discussed in detail below. See sections IV.F and IV.H of the direct final rule published elsewhere in this issue of the *Federal Register*. DOE's national impacts analysis includes all impacts (both costs and benefits) along the distribution chain beginning with the increased costs to the manufacturer to manufacture the product and ending with the increase in price experienced by the consumer. DOE also separately conducts a detailed analysis on the impacts on manufacturers (*i.e.*, manufacturer impact analysis, or "MIA"). See section IV.J of the direct final rule published elsewhere in this issue of the *Federal Register*. In the detailed MIA, DOE models manufacturers' pricing decisions based on assumptions regarding investments, conversion costs, cashflow, and margins. The MIA produces a range of impacts, which is the rule's expected impact on the INPV. The change in INPV is the present value of all changes in industry cash flow, including changes in production costs, capital expenditures, and manufacturer profit margins. The annualized change in INPV is calculated using the industry weighted average cost of capital value of 7.7 percent that is estimated in the manufacturer impact analysis (*see* chapter 12 of the direct final rule TSD for a complete description of the industry weighted average cost of capital). For MREFs, the annualized change in INPV ranges from -\$7.7 million to -\$5.0 million. DOE accounts for that range of likely impacts in analyzing whether a trial standard level is economically justified. See section V.C of the direct final rule published elsewhere in this issue of the *Federal Register*. DOE is presenting the range of impacts to the INPV under two manufacturer markup scenarios: the Preservation of Gross Margin scenario, which is the manufacturer markup scenario used in the calculation of Consumer Operating Cost Savings in this table; and the Preservation of Operating Profit scenario, where DOE assumed manufacturers would not be able to increase per-unit operating profit in proportion to increases in manufacturer production costs. DOE includes the range of estimated annual change in INPV in the above table, drawing on the MIA explained further in section IV.J of the direct final rule published elsewhere in this issue of the *Federal Register* to provide additional context for assessing the estimated impacts of this proposal to society, including potential changes in production and consumption, which is consistent with OMB's Circular A-4 and E.O. 12866. If DOE were to include the INPV into the annualized net benefit calculation for this proposed rule, the annualized net benefits would range from \$90.3 million to \$93.0 million at 3-percent discount rate and would range from \$54.0 million to \$56.7 million at 7-percent discount rate. Parentheses indicate negative (-) values.

## IV. Public Participation

### A. Submission of Comments

DOE will accept comments, data, and information regarding this proposed rule until the date provided in the **DATES** section at the beginning of this proposed rule.

Interested parties may submit comments, data, and other information using any of the methods described in the **ADDRESSES** section at the beginning of this document.



*Submitting comments via www.regulations.gov.* The *www.regulations.gov* webpage 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 itself 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. Otherwise, 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 *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 *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 *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 will also be posted to *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 in 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, in which case 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, that are written in English, and that 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.* Pursuant 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 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. DOE will make its own determination about the confidential status of the information and treat it according to its determination. 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).

#### *B. Public Meeting*

As stated previously, if DOE withdraws the direct final rule published elsewhere in this issue of the *Federal Register* pursuant to 42 U.S.C. 6295(p)(4)(C), DOE will hold a public meeting to allow for additional comment on this proposed rule. DOE will publish notice of any meeting in the *Federal Register*.

## V. Procedural Issues and Regulatory Review

The regulatory reviews conducted for this proposed rule are identical to those conducted for the direct final rule published elsewhere in this issue of the *Federal Register*. Please see the direct final rule for further details.

### A. 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 (“IRFA”) and a final regulatory flexibility analysis (“FRFA”) 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 E.O. 13272, “Proper Consideration of Small Entities in Agency Rulemaking,” 67 FR 53461 (Aug. 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 proposed rulemaking process. 68 FR 7990. DOE has made its procedures and policies available on the Office of the General Counsel’s website ([www.energy.gov/gc/office-general-counsel](http://www.energy.gov/gc/office-general-counsel)). DOE has prepared the following IRFA for the products that are the subject of this proposed rulemaking.

For manufacturers of MREFs, the Small Business Administration (“SBA”) has set a size threshold, which defines those entities classified as “small businesses” for the purposes of the statute. DOE used the SBA’s small business size standards to determine whether any small entities would be subject to the requirements of the rule. (*See* 13 CFR

part 121.) The size standards are listed by North American Industry Classification System (“NAICS”) code and industry description and are available at [www.sba.gov/document/support--table-size-standards](http://www.sba.gov/document/support--table-size-standards). Manufacturing of MREFs is classified under 335220: “Major Household Appliance Manufacturing” or NAICS code 333415: “Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing.” The SBA sets a threshold of 1,500 employees or fewer and 1,250 employees or fewer for an entity to be considered as a small business for NAICS codes 335220 and 333415, respectively. DOE used the higher (*i.e.*, more inclusive) threshold of 1,500 employees to identify small business manufacturers.

#### 1. Description of Reasons Why Action Is Being Considered

DOE is proposing amended energy conservation standards for MREFs. EPCA authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. Title III, Part B of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles which, in addition to identifying particular consumer products and commercial equipment as covered under the statute, permits the Secretary of Energy to classify additional types of consumer products as covered products. (42 U.S.C. 6292(a)(20)) DOE added MREFs as covered products through a final determination of coverage published in the *Federal Register* on July 18, 2016. 81 FR 46768. EPCA further provides 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 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))

Pursuant to EPCA, any new or amended energy conservation standard must be designed to achieve the maximum improvement in energy efficiency that DOE determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) Furthermore, the new or amended standard must result in significant conservation of energy. (42 U.S.C. 6295(o)(3)(B))

In light of the above and the requirements under 42 U.S.C. 6295(p)(4)(A)–(B), DOE is issuing this NOPR proposing energy conservation standards for MREFs. These standard levels were submitted jointly to DOE on September 25, 2023, by groups representing manufacturers, energy and environmental advocates, consumer groups, and a utility.<sup>14</sup> This letter, titled “Energy Efficiency Agreement of 2023” (hereafter, the “Joint Agreement”<sup>15</sup>), recommends specific energy conservation standards for MREFs that, in the commenters’ view, would satisfy the EPCA requirements in 42 U.S.C. 6295(o).

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<sup>14</sup> The signatories to the Joint Agreement include AHAM, American Council for an Energy-Efficient Economy, Alliance for Water Efficiency, Appliance Standards Awareness Project, Consumer Federation of America, Consumer Reports, Earthjustice, National Consumer Law Center, Natural Resources Defense Council, Northwest Energy Efficiency Alliance, and Pacific Gas and Electric Company. Members of AHAM’s Major Appliance Division that manufacture the affected products include: Alliance Laundry Systems, LLC; Asko Appliances AB; Beko US Inc.; Brown Stove Works, Inc.; BSH; Danby Products, Ltd.; Electrolux Home Products, Inc.; Elicamex S.A. de C.V.; Faber; Fotile America; GEA, a Haier Company; L’Atelier Paris Haute Design LLG; LGEUSA; Liebherr USA, Co.; Midea America Corp.; Miele, Inc.; Panasonic Appliances Refrigeration Systems (PAPRSA) Corporation of America; Perlick Corporation; Samsung; Sharp Electronics Corporation; Smeg S.p.A; Sub-Zero Group, Inc.; The Middleby Corporation; U-Line Corporation; Viking Range, LLC; and Whirlpool.

<sup>15</sup> This document is available in the docket at: [www.regulations.gov/document/EERE-2020-BT-STD-0039-0034](http://www.regulations.gov/document/EERE-2020-BT-STD-0039-0034).

## 2. Objectives of, and Legal Basis for, Rule

EPCA authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. Title III, Part B of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which in addition to identifying particular consumer products and commercial equipment as covered under the statute, permits the Secretary of Energy to classify additional types of consumer products as covered products. (42 U.S.C. 6292(a)(20)) DOE added MREFs as covered products through a final determination of coverage published in the Federal Register on July 18, 2016 (the “July 2016 Final Coverage Determination”). 81 FR 46768. MREFs are consumer refrigeration products other than refrigerators, refrigerator-freezers, or freezers, which include coolers and combination cooler refrigeration products. 10 CFR 430.2. MREFs include refrigeration products such as coolers (*e.g.*, wine chillers and other specialty products) and combination cooler refrigeration products (*e.g.*, wine chillers and other specialty compartments combined with a refrigerator, refrigerator-freezers, or freezers). EPCA further provides 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 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)).

## 3. Description and Estimated Number of Small Entities Regulated

DOE reviewed this proposed rule under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. 68 FR 7990. DOE conducted a market survey to identify potential small manufacturers of

MREFs. DOE conducted a market survey to identify potential small manufacturers of MREFs. DOE reviewed DOE’s Compliance Certification Database (“CCD”),<sup>16</sup> California Energy Commission’s Modernized Appliance Efficiency Database System,<sup>17</sup> individual company websites, and prior MREF rulemakings to identify manufacturers of the covered product. DOE then consulted publicly available data, such as manufacturer websites, manufacturer specifications and product literature, import/export logs (*e.g.*, bills of lading from ImportYeti<sup>18</sup>), and basic model numbers to identify original equipment manufacturers (“OEMs”) of covered MREFs. DOE further relied on public data and subscription-based market research tools (*e.g.*, Dun & Bradstreet reports<sup>19</sup>) to determine company, location, headcount, and annual revenue. DOE also asked industry representatives if they were aware of any small manufacturers during manufacturer interviews conducted in advance of the March 2023 NOPR. 88 FR 19382. DOE screened out companies that do not offer products covered by this proposed rulemaking, do not meet the SBA’s definition of a “small business,” or are foreign-owned and operated.

Through DOE’s review of its product database and other public sources, DOE identified 49 OEMs that sell MREFs in the United States for this proposed rule. Of the

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<sup>16</sup> U.S. Department of Energy’s Compliance Certification Database. (Last accessed August 17, 2023.) [www.regulations.doe.gov/certification-data/#q=Product\\_Group\\_s%3A\\*](http://www.regulations.doe.gov/certification-data/#q=Product_Group_s%3A*)

<sup>17</sup> California Energy Commission’s Modernized Appliance Efficiency Database System. (Last accessed August 17, 2023.) [cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx](http://cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx)

<sup>18</sup> ImportYeti, LLC. ImportYeti. (Last accessed December 4, 2023) [www.importyeti.com/%20](http://www.importyeti.com/%20)

<sup>19</sup> D&B Hoover. Company Profiles. Various companies. (Last accessed September 15, 2023.) [app.dnbhoovers.com](http://app.dnbhoovers.com).



49 OEMs identified, DOE determined that one company qualifies as a small business and is not foreign-owned and operated.

#### 4. Description and Estimate of Compliance Requirements Including Differences in Cost, if Any, for Different Groups of Small Entities

The small business identified has 14 MREF models certified in DOE's CCD. Of those 14 models, nine models are FCCs, two are built-in coolers, and three are C-13A combination coolers. None of the nine FCC models meet the Recommended TSL (*i.e.*, TSL 4) efficiencies. Of the two built-in coolers, one meets the efficiencies required at the Recommended TSL. However, based on a review of their product specifications, the two models have identical dimensions and share many components. Given the product similarities, DOE expects the manufacturer would likely discontinue the non-compliant model. None of the three C-13A models meet the Recommended TSL efficiencies. To meet the required efficiencies for their FCC models, DOE expects the manufacturer would likely need to incorporate incrementally more efficient compressors, along with other design options. DOE expects these updates to be relatively straight forward component replacements. Some product conversion costs would be necessary for sourcing, qualifying, and testing more efficient components. To meet the efficiencies required for their C-13A models, DOE expects the manufacturer would likely need to implement variable-speed compressors, along with other design options. Implementing variable-speed compressors could require more advanced controls and electronics and new test stations. DOE expects this manufacturer would incur minimal capital conversion costs as the design options analyzed do not require changes to insulation (*i.e.*, VIPs or increased wall insulation thickness). DOE estimated conversion costs for this

small manufacturer by using product platform estimates to scale-down the industry conversion costs. DOE estimates that the small business would incur product conversion costs of approximately \$1.41 million related to sourcing and testing more efficient components and variable-speed compressors to meet proposed standards. Based on subscription-based market research reports, the small business has an annual revenue of approximately \$85.3 million.<sup>20</sup> The total conversion costs of \$1.41 million are less than 1 percent of the estimated company revenue over the 5-year conversion period.

#### 5. Duplication, Overlap, and Conflict with Other Rules and Regulations

DOE is not aware of any rules or regulations that duplicate, overlap, or conflict with this proposed rule.

#### 6. Significant Alternatives to the Rule

The discussion in the previous section analyzes impacts on small businesses that would result from DOE's proposed rule, represented by TSL 4 (*i.e.*, the Recommended TSL). In reviewing alternatives to the proposed rule, DOE examined energy conservation standards set at lower efficiency levels. While TSLs 3, 2, and 1 would reduce the impacts on small business manufacturers, it would come at the expense of a reduction in energy savings. TSL 1 achieves 69 percent lower energy savings compared to the energy savings at TSL 4. TSL 2 achieves 38 percent lower energy savings

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<sup>20</sup> D&B Hoover. Company Profiles. Various companies. (Last accessed November 29, 2023.) [app.dnbhoovers.com](http://app.dnbhoovers.com).

compared to the energy savings at TSL 4. TSL 3 achieves 31 percent lower energy savings compared to the energy savings at TSL 4.

Based on the presented discussion, establishing standards at TSL 4 balances the benefits of the energy savings at TSL 4 with the potential burdens placed on MREF manufacturers, including small business manufacturers. Accordingly, DOE does not propose one of the other TSLs considered in the analysis, or the other policy alternatives examined as part of the regulatory impact analysis and included in chapter 17 of the direct final rule TSD.

Additional compliance flexibilities may be available through other means. EPCA provides that a manufacturer whose annual gross revenue from all of its operations does not exceed \$8 million may apply for an exemption from all or part of an energy conservation standard for a period not longer than 24 months after the effective date of a final rule establishing the standard. (42 U.S.C. 6295(t)) Additionally, manufacturers subject to DOE's energy efficiency standards may apply to DOE's Office of Hearings and Appeals for exception relief under certain circumstances. Manufacturers should refer to 10 CFR part 430, subpart E, and 10 CFR part 1003 for additional details.

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

The Secretary of Energy has approved publication of this notice of proposed rulemaking.

## List of Subjects in 10 CFR Part 430

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

## Signing Authority

This document of the Department of Energy was signed on April 10, 2024, by Jeffrey Marootian, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on April 10, 2024.

**Jeffrey M.**  
**X Marootian**

Digitally signed by  
Jeffrey M. Marootian  
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Jeffrey Marootian  
Principal Deputy Assistant Secretary for  
Energy Efficiency and Renewable Energy  
U.S. Department of Energy

For the reasons set forth in the preamble, DOE proposes to amend part 430 of chapter II, subchapter D, of title 10 of the Code of Federal Regulations, as set forth below:

**PART 430 - ENERGY CONSERVATION PROGRAM FOR CONSUMER PRODUCTS**

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

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

2. Amend § 430.32 by revising paragraph (aa) to read as follows:

**§ 430.32 Energy and water conservation standards and their compliance dates.**

\* \* \* \* \*

(aa) *Miscellaneous refrigeration products.* The energy standards as determined by the equations of the following table(s) shall be rounded off to the nearest kWh per year. If the equation calculation is halfway between the nearest two kWh per year values, the standard shall be rounded up to the higher of these values.

<p>(1) <i>Coolers.</i> (i) <i>Coolers manufactured on or after October 28, 2019, and before January 31, 2029, shall have an Annual Energy Use (AEU) no more than:</i></p> <p><b>Product Class</b></p>	<p><b>AEU (kWh/yr)</b></p>
<p>Freestanding compact.</p>	<p>7.88AV + 155.8</p>
<p>Freestanding.</p>	<p>7.88AV + 155.8</p>
<p>Built-in compact.</p>	<p>7.88AV + 155.8</p>

Built-in.	$7.88AV + 155.8$
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendix A to subpart B of this part.	

(ii) Coolers manufactured on or after January 31, 2029, shall have an Annual Energy Use (AEU) no more than:

Product Class	AEU (kWh/yr)
Freestanding compact.	$5.52AV + 109.1$
Freestanding.	$5.52AV + 109.1$
Built-in compact.	$5.52AV + 109.1$
Built-in.	$6.30AV + 124.6$
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendix A to subpart B of this part.	

<i>(2) Combination cooler refrigeration products. (i) Combination cooler refrigeration products manufactured on or after October 28, 2019, and before January 31, 2029, shall have an Annual Energy Use (AEU) no more than:</i>	
Product Class	AEU (kWh/yr)
C-3A. Cooler with all-refrigerator – automatic defrost	$4.57AV + 130.4$
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	$5.19AV + 147.8$
C-9. Cooler with upright freezer with automatic defrost without an automatic icemaker	$5.58AV + 147.7$
C-9-BI. Built-in cooler with upright freezer with automatic defrost without an automatic icemaker	$6.38AV + 168.8$
C-9I. Cooler with upright freezer with automatic defrost with an automatic icemaker	$5.58AV + 231.7$
C-9I-BI. Built-in cooler with upright freezer with automatic defrost with an automatic icemaker	$6.38AV + 252.8$
C-13A. Compact cooler with all-refrigerator – automatic defrost	$5.93AV + 193.7$
C-13A-BI. Built-in compact cooler with all-refrigerator – automatic defrost	$6.52AV + 213.1$
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendix A to subpart B of this part.	

(ii) Combination cooler refrigeration products manufactured on or after January 31, 2029, shall have an Annual Energy Use (AEU) no more than:

<b>Product Class</b>	<b>AEU (kWh/yr)</b>
C-3A. Cooler with all-refrigerator – automatic defrost	$4.11AV + 117.4$
C-3A-BI. Built-in cooler with all-refrigerator – automatic defrost	$4.67AV + 133.0$
C-5-BI. Built-in cooler with refrigerator-freezer with automatic defrost with bottom-mounted freezer	$5.47AV + 196.2 + 28I$
C-9. Cooler with upright freezer with automatic defrost without an automatic icemaker	$5.58AV + 147.7 + 28I$
C-9-BI. Built-in cooler with upright freezer with automatic defrost without an automatic icemaker	$6.38AV + 168.8 + 28I$
C-13A. Compact cooler with all-refrigerator – automatic defrost	$4.74AV + 155.0$
C-13A-BI. Built-in compact cooler with all-refrigerator – automatic defrost	$5.22AV + 170.5$
AV = Total adjusted volume, expressed in ft <sup>3</sup> , as determined in appendix A to subpart B of this part. I = 1 for a product with an automatic icemaker and = 0 for a product without an automatic icemaker.	

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