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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Part 430

[EERE-2017-BT-STD-0014]

RIN 1904-AF58

Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers

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 residential clothes washers ("RCWs"). In this notice of proposed rulemaking ("NOPR"), the U.S. Department of Energy ("DOE") proposes amended energy conservation standards for RCWs 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* under docket number EERE–2017–BT–STD-0014. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE–2017–BT–STD-0014, by any of the following methods:

1) *Email:* ApplicanceStandardsQuestions@ee.doe.gov. Include the docket number EERE–2017–BT–STD-0014 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, 950 L'Enfant Plaza, SW., 6th Floor, Washington, DC, 20024. Telephone: (202) 287-1445. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No 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*. All documents in the docket are listed in the *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-2017-BT-STD-0014*. 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*.

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 Antitrust 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:

Dr. Carl Shapiro, 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) 287-5649. Email: *ApplianceStandardsQuestions@ee.doe.gov*.

Ms. Amelia Whiting, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (240) 586-2588. Email: *Amelia.Whiting@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:

Table of Contents

I. Synopsis of the Proposed Rule
II. Introduction
  A. Authority
  B. Background
    1. Current Standards
    2. Current Test Procedure
    3. The Joint Agreement
III. Proposed Standards
  A. Benefits and Burdens of TSLs Considered for Residential Clothes Washer Standards
  B. Annualized Benefits and Costs of the Proposed Standards
IV. Public Participation
  A. Submission of Comments
  B. Public Meeting
V. Severability
VI. Procedural Issues and Regulatory Review
  A. Review Under the Regulatory Flexibility Act
    1. Description of Reasons Why Action Is Being Considered
    2. Objectives of, and Legal Basis for, Rule
    3. Description and Estimated Number of Small Entities Regulated
    4. Description and Estimate of Compliance Requirements Including Differences in Cost, if Any, for Different Groups of Small Entities
    5. Duplication, Overlap, and Conflict with Other Rules and Regulations
    6. Significant Alternatives to the Rule
VII. Approval of the Office of the Secretary

I. Synopsis of the Proposed Rule

The Energy Policy and Conservation Act, Public Law 94-163, as amended ("EPCA"),[1] 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

[1] 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.

EPCA[2] established the Energy Conservation Program for Consumer Products Other Than Automobiles. (42 U.S.C. 6291–6309) These products include consumer (residential)[3] clothes washers ("RCWs"), the subject of this proposed rulemaking. (42 U.S.C. 6292(a)(7))

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)(A)(i), DOE is proposing this rule amending the energy conservation standards for RCWs and is concurrently issuing a direct final rule elsewhere in this issue of the *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 proposed 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"[4]),

[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated Part A.
[3] DOE uses the "residential" nomenclature and "RCW" abbreviation for consumer clothes washers in order to distinguish from the "CCW" abbreviation used for commercial clothes washers, which are also regulated equipment under EPCA.
[4] This document is available in the docket at: *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0505*.

recommends specific energy conservation standards for RCWs that, in the commenters' view, would satisfy the EPCA requirements in 42 U.S.C. 6295(o). DOE subsequently received letters of support for the Joint Agreement from States including New York, California, and Massachusetts[5] and utilities including San Diego Gas and Electric and Southern California Edison[6] advocating for the adoption 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 amended energy conservation standards for RCWs. The standards are expressed in terms of energy efficiency ratio ("EER"), measured in pounds per kilowatt-hour per cycle ("lb/kWh/cycle"), and water efficiency ratio ("WER"), measured in pounds per gallon per cycle ("lb/gal/cycle"), as determined in accordance with DOE's clothes washer test procedure codified at title 10 of the Code of Federal Regulations ("CFR") part 430, subpart B, appendix J ("appendix J"). The EER metric includes active mode, inactive mode, and off mode energy use.

Table I.1 presents the proposed energy conservation standards for RCWs. The proposed standards are the same as those recommended by the Joint Agreement. These

[5] This document is available in the docket at: *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0506*.
[6] This document is available in the docket at: *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0507*.

standards apply to all products listed in Table I.1 and manufactured in, or imported into the United States starting on March 1, 2028, as recommended in the Joint Agreement.

Table I.1 Proposed Energy Conservation Standards for Residential Clothes Washers (Compliance Starting March 1, 2028)

Product Class	Minimum Energy Efficiency Ratio *(lb/kWh/cycle)*	Minimum Water Efficiency Ratio *(lb/gal/cycle)*
Automatic Clothes Washers		
Top-Loading Ultra-Compact (less than 1.6 ft^3 capacity)	3.79	0.29
Top-Loading Standard-Size (1.6 ft^3 or greater capacity) with an average cycle time of 30 minutes or greater	4.27	0.57
Front-Loading Compact (less than 3.0 ft^3 capacity)*	5.02	0.71
Front-Loading Standard-Size (3.0 ft^3 or greater capacity) with an average cycle time of 45 minutes or greater	5.52	0.77
Semi-Automatic Clothes Washers	2.12	0.27

* The standards in this table do not apply to front-loading clothes washers with a capacity greater than or equal to 1.6 ft^3 and less than 3.0 ft^3 with an average cycle time of less than 45 minutes.

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 RCWs.

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 established the Energy Conservation Program for Consumer Products Other Than Automobiles. These products include RCWs, the subject of this document. (42 U.S.C. 6292(a)(7)) EPCA prescribed energy conservation standards for these products (42 U.S.C. 6295(g)(2) and

(g)(9)(A)), and directed DOE to conduct future rulemakings to determine whether to amend these standards. (42 U.S.C. 6295(g)(4) and (g)(9)(B)) 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))

In establishing energy conservation standards with both energy and water use performance standards for RCWs manufactured after January 1, 2011, Congress also directed DOE to "determin[e] whether to amend" those standards. (42 U.S.C. 6295(g)(9)(B)) Congress's directive, in section 6295(g)(9)(B), to consider whether "to amend the standards in effect for RCWs" refers to "the standards" established in the immediately preceding paragraph, 6295(g)(9)(A). There, Congress established energy conservation standards with *both* energy and water use performance standards for RCWs. Indeed, the energy and water use performance standards for RCWs (both top-loading and front-loading) are each contained within a single subparagraph. *See id*. Everything in section 6295(g)(9) suggests that Congress intended both of those twin standards to be evaluated when it came time, "[n]ot later than December 13, 2011," to consider amending them. (*Id.* 6295(g)(9)(B)(i)) Accordingly, DOE understands its authority, under 6295(g)(9)(B), to include consideration of amended energy and water use performance standards for RCWs.

DOE similarly understands its authority under 42 U.S.C. 6295(m) to amend "standards" for covered products to include amending both the energy and water use performance standards for RCWs. Neither section 6295(g)(9)(B) nor section 6295(m) limit their application to "energy use standards." Rather, they direct DOE to consider amending "the standards," 42 U.S.C. 6295(g)(9)(B), or simply "standards," *id.* 6295(m)(1)(B), which may include both energy use standards and water use standards.

Finally, DOE is proposing these standards in this companion NOPR to a direct final rule pursuant to section 42 U.S.C. 6295(p)(4). That section also extends broadly to any "energy or water conservation standard" without qualification. Thus, pursuant to section 6295(p)(4), DOE may, so long as the other relevant conditions are satisfied, promulgate a direct final rule that includes water use performance standards for a covered product like RCWs, where Congress has already established energy and water use performance standards.

DOE is aware that the definition of "energy conservation standard," in section 6291(6), expressly references water use only for four products specifically named: showerheads, faucets, water closets, and urinals. *See id.* However, DOE does not read the language in 6291(6) as fully delineating the scope of DOE's authority under EPCA. Rather, as is required of agencies in applying a statute, individual provisions, including section 6291(6) of EPCA, must be read in the context of the statute as a whole.

The energy conservation program was initially limited to addressing the energy use, meaning electricity and fossil fuels, of 13 covered products. (*See* sections 321 and

322 of the Energy and Policy Conservation Act, Pub. L. 94–163, 89 Stat 871 (December 22, 1975)). Since its inception, Congress has expanded the scope of the energy conservation program several times, including by adding covered products, prescribing energy conservation standards for various products, and by addressing water use for certain covered products. For example, in the Energy Policy Act of 1992, Congress amended the list of covered products in 42 U.S.C. 6292 to include showerheads, faucets, water closets and urinals and expanded DOE's authority to regulate water use for these products. (*See* Sec. 123, Energy Policy Act of 1992, Pub. L. 102–486, 106 Stat 2776 (Oct. 24, 1992)). When it did so, Congress also made corresponding changes to the definition of "consumer product" (42 U.S.C. 6291(1)), the definition of "energy conservation standard" (42 U.S.C. 6291(6)), the section governing the promulgation of test procedures (42 U.S.C. 6293), the criteria for prescribing new or amended energy conservation standards (42 U.S.C. 6295(o)), and elsewhere in EPCA.

Later, Congress further expanded the scope of the energy conservation program several times. For instance, Congress added products and standards directly to 42 U.S.C. 6295, the section of EPCA that contains statutorily prescribed standards as well as DOE's standard-setting authorities. *See* 42 U.S.C. 6295(a) (stating that the "purposes of this section are to— (1) provide Federal energy conservation standards applicable to covered products; and (2) authorize the Secretary to prescribe amended or new energy conservation standards for each type (or class) of covered product.")). When Congress added these new standards and standard-setting authorities to 42 U.S.C. 6295 after the Energy Policy Act of 1992, it often did so without making any conforming changes to other provisions in EPCA, *e.g.*, sections 6291 or 6292. For example, in the Energy Policy

Act of 2005, Congress prescribed standards by statute, or gave DOE the authority to set standards for, battery chargers, external power supplies, ceiling fans, ceiling fan light kits, beverage vending machines, illuminated exit signs, torchieres, low voltage dry-type distribution transformers, traffic signal modules and pedestrian modules, certain lamps, dehumidifiers, and commercial prerinse spray valves in 42 U.S.C. 6295 without updating the list of covered products in 42 U.S.C. 6292. (*See* Sec. 135, Energy Policy Act of 2005, 119 Stat 594 (Aug. 8, 2005)).

Congress also expanded the scope of the energy conservation program by directly adding water use performance standards for certain products to 42 U.S.C. 6295. For example, in the Energy Policy Act of 2005, Congress added a water use performance standard (but no energy use performance standard) for commercial prerinse spray valves ("CPSVs") and did so without updating the list of covered products in 42 U.S.C. 6292 to include CPSVs and without adding CPSVs to the list of enumerated products with water use performance standards in the "energy conservation standard" definition in 42 U.S.C. 6291(6). In the Energy Independence and Security Act of 2007 ("EISA 2007"), Congress amended 42 U.S.C. 6295 by prescribing standards for RCWs and dishwashers that included both energy and water use performance standards. (*See* Sec. 301, EISA 2007, Pub. L. 110–140, 121 Stat 1492 (Dec. 19, 2007)). Again, when it did so, Congress did not add these products to the list of enumerated products with water use performance standards in the definition of "energy conservation standard" in 42 U.S.C. 6291(6).

In considering how to treat these products and standards that Congress has directly added to 42 U.S.C. 6295 without making conforming changes to the rest of the

statute, including the list of covered products in 42 U.S.C. 6292, and the water-use products in the definition of an "energy conservation standard," DOE construes the statute as a whole. When Congress added products and standards directly to 42 U.S.C. 6295 it must have meant those products to be covered products and those standards to be energy conservation standards, given that the purpose of 42 U.S.C. 6295 is to provide "energy conservation standards applicable to covered products" and to "authorize the Secretary to prescribe amended or new energy conservation standards for each type (or class) of covered product." Elsewhere in EPCA, the statute's references to covered products and energy conservation standards can only be read coherently as including the covered products and energy conservation standards Congress added directly to section 6295, even if Congress did not make conforming edits to 6291 or 6292. For example, manufacturers are prohibited from "distribut[ing] in commerce any new *covered product* which is not in conformity with an applicable *energy conservation standard*." (42 U.S.C. 6302(a)(5) (emphasis added)) It would defeat congressional intent to allow a manufacturer to distribute a product, *e.g.*, a CPSV or ceiling fan, that violates an applicable energy conservation standard that Congress prescribed simply because Congress added the product directly to 42 U.S.C. 6295 without also updating the list of covered products in 42 U.S.C. 6292(a). In addition, preemption in EPCA is based on "the effective date of an *energy conservation standard* established in or prescribed under section 6295 of this title for any *covered product*." (42 U.S.C. 6297(c)(emphasis added)) Nothing in EPCA suggests that standards Congress adopted in 6295 lack preemptive effect, merely because Congress did make conforming amendments to 6291, 6292, or 6293.

It would similarly defeat congressional intent for a manufacturer to be permitted to distribute a covered product, *e.g.*, a clothes washer or dishwasher, that violates a water use performance standard because Congress added the standard to 42 U.S.C. 6295 without also updating the definition of energy conservation standard in 42 U.S.C. 6291(6). By prescribing directly, in 6295(g)(9), energy conservation standards for RCWs that include both energy and water use performance standards, Congress intended that energy conservation standards for RCWs include both energy use and water use.

DOE recognizes that some might argue that Congress's specific reference in section 6291(6) to water standards for showerheads, faucets, water closets, and urinals could "create a negative implication" that energy conservations standards for other covered products may not include water use standards. *See Marx v. Gen. Revenue Corp.*, 568 U.S. 371, 381 (2013). "The force of any negative implication, however, depends on context." *Id.*; *see also NLRB v. SW Gen., Inc.*, 580 U.S. 288, 302 (2017) ("The *expressio unius* canon applies only when circumstances support a sensible inference that the term left out must have been meant to be excluded." (alterations and quotation marks omitted)). In this context, the textual and structural cues discussed above show that Congress did not intend to exclude from the definition of energy conservation standard the water use performance standards that it specifically prescribed, and directed DOE to amend, in section 6295. To conclude otherwise would negate the plain text of 6295(g)(9). Furthermore, to the extent the definition of energy conservation standards in section 6291(6), which was last amended in the Energy Policy Act of 1992, could be read as in conflict with the energy and water use performance standards prescribed by Congress in EISA 2007, any such conflict should be resolved in favor of the more recently enacted

statute. *See United States v. Estate of Romani*, 523 U.S. 517, 530–31 (1998) ("[A] specific policy embodied in a later federal statute should control our construction of the priority statute, even though it had not been expressly amended."). Accordingly, based on a complete reading of the statute, DOE has determined that products and standards added directly to 42 U.S.C. 6295 are appropriately considered "covered products" and "energy conservation standards" for the purposes of applying the various provisions in EPCA.

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 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(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 procedures for RCWs appear at 10 CFR part 430, subpart B, appendix J ("appendix J") and appendix J2 ("appendix J2").

DOE must follow specific statutory criteria for prescribing new or amended standards for covered products, including RCWs. 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)) Furthermore, DOE may not adopt any standard that would not result in the significant conservation of energy. (42 U.S.C. 6295(o)(3)(B))

Moreover, DOE may not prescribe a standard if DOE determines by rule that the standard is not technologically feasible or economically justified. (42 U.S.C. 6295(o)(3)(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, final rules 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 procedures for RCWs address standby mode and off mode energy use, as do the standards proposed in this NOPR.

Finally, EISA 2007 amended EPCA, in relevant part, to grant DOE authority to directly 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 or water conservation 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 through 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 May 31, 2012 ("May 2012 Direct Final Rule"), DOE prescribed the current energy conservation standards for RCWs manufactured on or after January 1, 2018. 77 FR 32308.[7] These standards are set forth in DOE's regulations at 10 CFR 430.32(g)(4). These standards are consistent with a prior joint proposal submitted to DOE by interested parties representing manufacturers, energy and environmental advocates, and consumer groups.[8] The current standards are defined in terms of a minimum allowable integrated modified energy factor ("IMEF"), measured in cubic feet per kilowatt-hour per cycle ("ft^3/kWh/cycle"), and maximum allowable

[7] DOE published a confirmation of effective date and compliance date for the direct final rule on October 1, 2012. 77 FR 59719.
[8] Available at *www.regulations.gov/document/EERE-2008-BT-STD-0019-0032*.

integrated water factor ("IWF"), measured in gallons per cycle per cubic foot ("gal/cycle/ft^3"), as measured according to appendix J2.

Table II.1 Federal Energy Efficiency Standards for Residential Clothes Washers

Product Class	**Minimum Integrated Modified Energy Factor** *(ft^3/kWh/cycle)*	**Maximum Integrated Water Factor** *(gal/cycle/ft^3)*
Top-Loading, Compact (less than 1.6 ft^3 capacity)	1.15	12.0
Top-Loading, Standard (1.6 ft^3 or greater capacity)	1.57	6.5
Front-Loading, Compact (less than 1.6 ft^3 capacity)	1.13	8.3
Front-Loading, Standard (1.6 ft^3 or greater capacity)	1.84	4.7

For top-loading semi-automatic clothes washers, a design standard currently applies, which requires such products to have an unheated rinse water option. 10 CFR 430.32(g)(1).

2. Current Test Procedure

As discussed, DOE's current energy conservation standards for RCWs are expressed in terms of IMEF and IWF as measured using appendix J2. (*See* 10 CFR 430.32(g)(4).)

In a final rule published on June 1, 2022 ("June 2022 TP Final Rule"), DOE finalized a new test procedure at appendix J, which defines new energy efficiency metrics: an energy efficiency ratio (*i.e.*, EER) and a water efficiency ratio (*i.e.*, WER). 87 FR 33316, 33319. EER is defined as the quotient of the weighted-average load size divided by the total clothes washer energy consumption per cycle, with such energy consumption expressed as the sum of (1) the machine electrical energy consumption, (2)

the hot water energy consumption, (3) the energy required for removal of the remaining moisture in the wash load, and (4) the combined low-power mode energy consumption. 10 CFR part 430 subpart B, appendix J section 1. WER is defined as the quotient of the weighted-average load size divided by the total weighted per-cycle water consumption for all wash cycles in gallons. *Id.* For both EER and WER, a higher value indicates more efficient performance. The standard levels proposed in this NOPR are expressed in terms of the EER and WER metrics as measured according to the newly established test procedure contained in appendix J.

3. The Joint Agreement

On September 25, 2023, DOE received a joint statement (*i.e.*, the Joint Agreement) recommending standards for RCWs, that was submitted by groups representing manufacturers, energy and environmental advocates, consumer groups, and a utility.[9] In addition to the recommended standards for RCWs, the Joint Agreement also included separate recommendations for several other covered products.[10] And, while acknowledging that DOE may implement these recommendations in separate

[9] The signatories to the Joint Agreement include the Association of Home Appliance Manufacturers ("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 make the affected products include: Alliance Laundry Systems, LLC; Asko Appliances AB; Beko US Inc.; Brown Stove Works, Inc.; BSH Home Appliances Corporation; Danby Products, Ltd.; Electrolux Home Products, Inc.; Elicamex S.A. de C.V.; Faber; Fotile America; GE Appliances, a Haier Company; L'Atelier Paris Haute Design LLG; LG Electronics; Liebherr USA, Co.; Midea America Corp.; Miele, Inc.; Panasonic Appliances Refrigeration Systems (PAPRSA) Corporation of America; Perlick Corporation; Samsung Electronics America Inc.; Sharp Electronics Corporation; Smeg S.p.A; Sub-Zero Group, Inc.; The Middleby Corporation; U-Line Corporation; Viking Range, LLC; and Whirlpool Corporation.

[10] The Joint Agreement contained recommendations for 6 covered products: refrigerators, refrigerator-freezers, and freezers; residential clothes washers; consumer clothes dryers; dishwashers; consumer conventional cooking products; and miscellaneous refrigeration products.

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 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.

A court decision issued after DOE received the Joint Agreement is also relevant to today's rule. On March 17, 2022, various States filed a petition seeking review of a final rule revoking two final rules that established product classes for residential dishwashers with a cycle time for the normal cycle of 60 minutes or less, top-loading RCWs and certain classes of consumer clothes dryers with a cycle time of less than 30 minutes, and front-loading RCWs with a cycle time of less than 45 minutes (collectively, "short cycle product classes"). The petitioners argued that the final rule revoking the short cycle product classes violated EPCA and was arbitrary and capricious. On January

8, 2024, the United States Court of Appeals for the Fifth Circuit granted the petition for review and remanded the matter to DOE for further proceedings consistent with the Fifth Circuit's opinion. *See Louisiana v. United States Department of Energy*, 90 F.4th 461 (5th Cir. 2024).

On February 14, 2024, following the Fifth Circuit's decision in *Louisiana v. United States Department of Energy,* DOE received a second joint statement from this same group of stakeholders in which the signatories reaffirmed the Joint Agreement, stating that the recommended standards represent the maximum levels of efficiency that are technologically feasible and economically justified.[11] In the letter, the signatories clarified that "short-cycle" product classes for RCWs, consumer clothes dryers, and dishwashers did not exist at the time that the signatories submitted their recommendations and it is their understanding that these classes also do not exist at the current time. Accordingly, the parties clarified that the Joint Agreement did not address short-cycle product classes. The signatories also stated that they did not anticipate that the recommended energy conservation standards in the Joint Agreement will negatively affect features or performance, including cycle time, for RCWs.

In a recently issued request for information ("RFI"),[12] DOE is commencing a rulemaking process on remand from the Fifth Circuit (the "Remand Proceeding") by soliciting further information, relevant to the issues identified by the Fifth Circuit,

[11] This document is available in the docket at: *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0509*.
[12] See Appliance Standards Rulemakings and Notices (energy.gov).

regarding any short cycle product classes. In that Remand Proceeding, DOE will conduct the analysis required by 42 U.S.C. 6295(q)(1)(B) to determine whether any short-cycle products have a "capacity or other performance-related feature [that] . . . justifies a higher or lower standard from that which applies (or will apply) to other products. ....."

The Joint Agreement recommends amended standard levels for RCWs as presented in Table II.2. (Joint Agreement, No. 505 at p. 9) Details of the Joint Agreement recommendations for other products are provided in the Joint Agreement posted in the docket.[13]

Table II.2 Recommended Amended Energy Conservation Standards for Residential Clothes Washers

Product Class	Minimum Energy Efficiency Ratio *(lb/kWh/cycle)*	Minimum Water Efficiency Ratio *(lb/gal/cycle)*	Compliance Date
Top-Loading, Ultra-Compact (less than 1.6 ft^3 capacity)	3.79	0.29	March 1, 2028
Top-Loading, Standard-Size (1.6 ft^3 or greater capacity)	4.27	0.57	
Front-Loading, Compact (less than 1.6 ft^3 capacity)	5.02	0.71	
Front-Loading, Standard-Size (1.6 ft^3 or greater capacity)	5.52	0.77	
Semi-Automatic Clothes Washers	2.12	0.27	

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 RCWs elsewhere in this issue of the

[13] The Joint Agreement is available in the docket at *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0505*.

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") 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.

When the Joint Agreement was submitted, DOE was conducting a rulemaking to consider amending the standards for RCWs. As part of that process, DOE published a NOPR and announced a public meeting on March 3, 2023, ("March 2023 NOPR") seeking comment on its proposed amended standards to inform its decision consistent with its obligations under EPCA and the Administrative Procedures Act ("APA"). 88 FR 13520. The March 2023 NOPR proposed amended standards defined in terms of the EER and WER metrics as measured according to appendix J. *Id*. at 88 FR 13522. The March 2023 NOPR also proposed to re-establish a product class, and establish new performance standards, for semi-automatic clothes washers. *Id*. at 88 FR 13541.[14] The March 2023

[14] Top-loading semi-automatic clothes washers were subject to a design standard requiring an unheated rinse water option, as established by section 5(g) of the National Appliance Energy Conservation Act of 1987, Public Law 100-12.

NOPR TSD is available at: *www.regulations.gov/document/EERE-2017-BT-STD-0014-0058*.

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 amended standards for RCWs 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 forego 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 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[15] 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.[16]

A. Benefits and Burdens of TSLs Considered for Residential Clothes Washer Standards

Table III.1 and Table III.2 summarize the quantitative impacts estimated for each TSL for RCWs. The national impacts are measured over the lifetime of RCWs purchased in the 30-year period that begins in the anticipated year of compliance with amended standards (2027–2056 for all TSLs except TSL 2, *i.e.*, the "Recommended TSL" for RCWs, and 2028–2057 for TSL 2). 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

[15] The TSD is available in the docket for this rulemaking at *www.regulations.gov/docket/EERE-2014-BT-STD-0005/document.*
[16] 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*.

this notice in the absence of the social cost of greenhouse gases, 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 Residential Clothes Washer TSLs: National Impacts

Category	TSL 1	TSL 2	TSL 3	TSL 4
Cumulative FFC National Energy Savings				
Quads	0.58	0.67	1.34	2.12
Cumulative FFC Emissions Reduction				
CO_2 (*million metric tons*)	12.88	13.96	31.22	55.77
CH_4 (*thousand tons*)	116.74	124.57	294.14	554.46
N_2O (*thousand tons*)	0.11	0.12	0.24	0.38
NO_X (*thousand tons*)	26.03	27.74	65.47	123.66
SO_2 (*thousand tons*)	3.18	3.65	6.97	10.33
Hg (*tons*)	0.02	0.02	0.05	0.07
Present Value of Benefits and Costs (*3% discount rate, billion 2022$*)				
Consumer Operating Cost Savings	12.99	17.92	26.18	34.19
Climate Benefits*	0.79	0.84	1.89	3.38
Health Benefits**	1.51	1.62	3.53	6.10
Total Benefits†	15.30	20.38	31.60	43.66
Consumer Incremental Product Costs‡	4.51	9.20	11.50	13.07
Consumer Net Benefits	8.48	8.71	14.68	21.12
Total Net Benefits	10.79	11.18	20.10	30.59
Present Value of Benefits and Costs (*7% discount rate, billion 2022$*)				
Consumer Operating Cost Savings	6.61	8.65	12.90	16.61
Climate Benefits*	0.79	0.84	1.89	3.38
Health Benefits**	0.70	0.73	1.58	2.65
Total Benefits†	8.11	10.22	16.37	22.64
Consumer Incremental Product Costs‡	2.83	5.37	6.94	7.86
Consumer Net Benefits	3.78	3.28	5.96	8.76
Total Net Benefits	5.28	4.85	9.43	14.79

Note: This table presents the costs and benefits associated with RCWs shipped during the period 2027−2056 for all TSLs except for TSL 2 (the Recommended TSL). These results include benefits to consumers which accrue after 2056 from the products shipped during the period 2027−2056. For TSL 2, this table presents the costs and benefits associated with RCWs shipped during the period 2028−2057.

* Climate benefits are calculated using four different estimates of the SC-CO_2, SC-CH_4 and SC-N_2O. 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_X and SO_2. DOE is currently only monetizing (for NO_X and SO_2) $PM_{2.5}$ precursor health benefits and (for NO_X) ozone precursor health benefits, but will continue to assess the ability to monetize other effects such as health benefits from reductions in direct $PM_{2.5}$ emissions. The health benefits are presented at real discount rates of 3 and 7 percent. *See* section IV.L of the direct final rule published elsewhere in this issue of the *Federal Register* for more details.

† 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 as well as installation costs.

Table III.2 Summary of Analytical Results for Residential Clothes Washer TSLs: Manufacturer and Consumer Impacts

Category	TSL 1	TSL 2**	TSL 3	TSL 4
Industry NPV (million 2022$) (No-new-standards case INPV = 1,707.9)	1,639.0 to 1,710.7	1,429.6 to 1,560.9	1,053.8 to 1,234.5	535.8 to 738.2
Industry NPV (% change)	(4.0) to 0.2	(16.3) to (8.6)	(38.3) to (27.7)	(68.6) to (56.8)
Consumer Average LCC Savings (2022$)				
Top-Loading Ultra-Compact	n.a	n.a	n.a	n.a
Top-Loading Standard-Size	$122	$111	$116	$133
Front-Loading Compact	$0	$9	$8	$38
Front-Loading Standard-Size	$26	$46	$15	$49
Semi-Automatic	$280	$284	$280	$188
Shipment-Weighted Average*	$98	$96	$91	$111
Consumer Simple PBP (years)				
Top-Loading Ultra-Compact	n.a	n.a	n.a	n.a
Top-Loading Standard-Size	4.4	6.2	5.7	5.4
Front-Loading Compact	9.6	9.3	9.5	8.0
Front-Loading Standard-Size	0.9	1.4	1.6	1.7
Semi-Automatic	0.5	0.5	0.5	0.6
Shipment-Weighted Average*	3.6	4.9	4.6	4.4
Percent of Consumers that Experience a Net Cost				
Top-Loading Ultra-Compact	n.a	n.a	n.a	n.a
Top-Loading Standard-Size	16%	27%	28%	26%
Front-Loading Compact	0%	21%	22%	35%
Front-Loading Standard-Size	1%	2%	20%	16%
Semi-Automatic	0%	0%	0%	0%
Shipment-Weighted Average*	12%	20%	25%	23%

Parentheses indicate negative (-) values. The entry "n.a." means not applicable because there is no change in the standard at certain TSLs.
* Weighted by shares of each product class in total projected shipments in 2027 except for TSL 2 (the Recommended TSL).
** For TSL 2 (the Recommended TSL), shipment-weighted averages are weighted by shares of each product class in total projected shipments in 2028.

DOE first considered TSL 4, which represents the max-tech efficiency levels for all product classes. Specifically for top-loading standard-size RCWs, DOE's expected design path for TSL 4 (which represents EL 4 for this product class) incorporates the use of a direct drive motor, stainless steel basket and more robust suspension and balancing systems (as methods for enabling faster spin speeds), a wash plate (as a means for

enabling reduced water levels), reduced hot and warm wash water temperatures compared to temperatures available on baseline units, spray rinse, the fastest achievable spin speeds, and an increase in tub size compared to the baseline (as a means for reducing energy and water use on a per-pound of clothing basis).[17] Among these design options, use of a direct drive motor, stainless steel basket and more robust suspension and balancing systems, reduced wash water temperatures, and fastest achievable spin speeds reduce energy use only; spray rinse reduces water use only; and the wash plate and increase in tub size reduce both energy and water use together.[18]

For front-loading standard-size RCWs, DOE's expected design path for TSL 4 (which represents EL 4 for this product class) incorporates the use of the most efficient available direct drive motor, the implementation of advanced sensors, the fastest achievable spin speeds, and lower cold water volume (but with no change to total hot water use). Among these design options, the direct drive motor, more advanced sensors, and faster spin speeds reduce energy use only; whereas the lower cold water volume reduces water use only.

TSL 4 would save an estimated 2.12 quads of energy and 2.73 trillion gallons of water, an amount DOE considers significant. Under TSL 4, the net present value

[17] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, DOE's direct final rule analysis indicates that an increase in tub capacity is not required to achieve EL 5; however, manufacturers are currently implementing this design option in EL 5 models currently available on the market.

[18] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, because the energy used to heat the water consumed by the RCW is included as part of the EER energy use metric, technologies that decrease hot water use also inherently decrease energy use.

("NPV") of consumer benefit would be $8.76 billion using a discount rate of 7 percent, and $21.12 billion using a discount rate of 3 percent.

The cumulative emissions reductions at TSL 4 are 55.77 million metric tons ("Mt") of carbon dioxide ("CO_2"), 10.33 thousand tons of sulfur dioxide ("SO_2"), 123.66 thousand tons of nitrogen oxides ("NO_X"), 0.07 tons of mercury ("Hg"), 554.46 thousand tons of methane ("CH_4"), and 0.38 thousand tons of nitrous oxide ("N_2O"). The estimated monetary value of the climate benefits from reduced GHG emissions (associated with the average social cost of GHG ("SC-GHG") at a 3-percent discount rate) at TSL 4 is $3.38 billion. The estimated monetary value of the health benefits from reduced SO_2 and NO_X emissions at TSL 4 is $2.65 billion using a 7-percent discount rate and $6.10 billion using a 3-percent discount rate.

Using a 7-percent discount rate for consumer benefits and costs, health benefits from reduced SO_2 and NO_X emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated total NPV at TSL 4 is $14.79 billion. Using a 3-percent discount rate for all benefits and costs, the estimated total NPV at TSL 4 is $30.59 billion. The estimated total NPV is provided for additional information; however, DOE primarily relies upon the NPV of consumer benefits when determining whether a proposed standard level is economically justified.

At TSL 4, the average life-cycle costs ("LCC") impact is a savings of $133 for top-loading standard-size, $38 for front-loading compact, $49 for front-loading standard-size, and $188 for semi-automatic clothes washers. The simple payback period is 5.4

years for top-loading standard-size, 8.0 years for front-loading compact, 1.7 years for front-loading standard-size, and 0.6 years for semi-automatic clothes washers. The fraction of consumers experiencing a net LCC cost is 26 percent for top-loading standard-size, 35 percent for front-loading compact, 16 percent for front-loading standard-size, and zero percent for semi-automatic clothes washers. For the top-loading standard-size product class, which represents 71 percent of the market, TSL 4 would increase the first cost by $166, in comparison to an installed cost of $690 for baseline units. For the front-loading standard-size product class, which represents 25 percent of the market, TSL 4 would increase the first cost by $93, compared to an installed cost of $1,027 for baseline units. At TSL 4, the standard for top-loading ultra-compact RCWs is at the baseline, resulting in no LCC impact, no simple PBP, and no consumers experiencing a net LCC cost. Additionally, as a result of lower costs associated with well water and septic tanks in rural areas, about 40 percent of well-water households would experience a net LCC cost at TSL 4.

At TSL 4, the projected change in industry net present value ("INPV") ranges from a decrease of $1,172.0 million to a decrease of $969.6 million, which correspond to a decrease of 68.6 percent and 56.8 percent, respectively. The loss in INPV is largely driven by industry conversion costs as manufacturers work to redesign their portfolios of model offerings and re-tool entire factories to comply with amended standards at this level. Industry conversion costs could reach $1,321.2 million at this TSL.

Conversion costs at max-tech are significant, as nearly all existing RCW models would need to be redesigned to meet the required efficiencies. Currently, approximately 4

percent of RCW annual shipments meet the max-tech levels. For top-loading standard-size RCWs, which DOE projects will account for 71 percent of annual shipments in 2027, less than 1 percent of current shipments meet this level. Of the nine original equipment manufacturers ("OEMs") offering top-loading standard-size products, one OEM offers five basic models (representing approximately 1 percent of all top-loading standard-size basic models) that meet the efficiencies required by TSL 4. The remaining eight OEMs would need to overhaul their existing platforms and make significant updates to their production facilities. Those manufacturers may need to incorporate increased tub capacities, wash plate designs, direct drive motors, reinforced wash baskets, robust suspension and balancing systems, and advanced sensors. These product changes require significant investment. In interviews, several manufacturers expressed concerns about their ability to meet existing market demand given the required scale of investment, redesign effort, and 3-year compliance timeline.

At TSL 3 and higher, manufacturers expressed concerns and presented data regarding potential impacts to product performance, including wash temperatures, cleaning and rinsing performance, and fabric care. At TSL 4, such concerns and uncertainties would be further exacerbated. Consumers that experience any such negative impacts on product performance could potentially alter their usage patterns, for example by using more energy-intensive settings more frequently (*e.g.*, Extra-Hot temperature setting); using more water-intensive cycle options (*e.g.*, Deep Fill option; extra rinse cycles); using non-regulated cycles (*e.g.*, Heavy Duty cycle); or re-washing clothing that has not been cleaned sufficiently. Such changes to consumer usage patterns may counteract the energy and water savings that DOE has estimated would be achieved at

TSL 4. For these reasons, DOE cannot be certain that the designs associated with TSL 4 efficiencies would not negatively impact certain aspects of standard-size RCW performance and consequently may jeopardize the energy and water savings that would be achieved at these efficiency levels. DOE emphasizes that its findings in this regard are based on the data available at this time and are predicated on the current state of clothes washer technology. Additional data that could become available, as well as future advances in washing technologies and design strategies, could alleviate any such concerns or uncertainties regarding product performance and could lead DOE to reach a different conclusion in a future rulemaking.

Based upon the above considerations, the Secretary tentatively concludes that at TSL 4 for RCWs, the benefits of energy and water savings, positive NPV of consumer benefits, and emission reductions would be outweighed by the potential for negative consumer utility impacts, which may jeopardize the energy and water savings that would be achieved at TSL 4, and the impacts on manufacturers, including the large potential reduction in INPV. DOE estimated the potential loss in INPV to be as high as 68 percent. The potential losses in INPV are primarily driven by large conversion costs that must be made ahead of the compliance date. At max-tech, manufacturers would need to make significant upfront investments to update nearly all product lines and manufacturing facilities. Manufacturers expressed concern that they would not be able to complete product and production line updates within the 3-year conversion period. Consequently, the Secretary has tentatively concluded that TSL 4 is not economically justified.

DOE then considered TSL 3, which represents the ENERGY STAR Most Efficient level for the front-loading product classes, the CEE Tier 1 level for the top-loading standard-size product class, and a gap fill level for the semi-automatic product classes.[19] Specifically, for top-loading standard-size RCWs, DOE's expected design path for TSL 3 (which represents EL 3 for this product class) incorporates many of the same technologies and design strategies as described for TSL 4. At TSL 3, top-loading standard-size units would incorporate a direct drive motor, stainless steel basket and more robust suspension and balancing systems (as methods for enabling faster spin speeds), a wash plate (as a means for enabling reduced water levels), and spray rinse, consistent with TSL 4. Models at TSL 3 would also incorporate slightly reduced hot wash water temperatures compared to temperatures available on baseline units, faster spin speeds compared to the baseline (although not as fast as TSL 4), and an increase in tub size compared to the baseline (as a means for reducing energy and water use on a per-pound of clothing basis).[20] Among these design options, use of a direct drive motor, stainless steel basket and more robust suspension and balancing systems, reduced wash water temperatures, and faster spin speeds reduce energy use only; spray rinse reduces water use only; and the wash plate and increase in tub size reduce both energy and water use together.

[19] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, tables in section IV.C.2.b of that direct final rule provide the ENERGY STAR Most Efficient and CEE Tier 1 equivalencies between the current metrics (IMEF and IWF) and the new metrics (EER and WER) for the top-loading and front-loading standard size product classes, respectively.

[20] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, DOE's direct final rule analysis indicates that an increase in tub capacity is not required to achieve EL 3; however, manufacturers are currently implementing this design option in EL 3 models currently available on the market.

For front-loading standard-size RCWs, DOE's expected design path for TSL 3 (which represents EL 3 for this product class) incorporates the use of the most efficient direct drive motor available, spin speeds that are faster than the baseline level but not as fast as at TSL 4, and lower water volume (but with no change to total hot water heating). Among these design options, the direct drive motor and faster spin speeds reduce energy use only; whereas the lower water volume reduces water use only.

TSL 3 would save an estimated 1.34 quads of energy and 2.33 trillion gallons of water, an amount DOE considers significant. Under TSL 3, the NPV of consumer benefit would be $5.96 billion using a discount rate of 7 percent, and $14.68 billion using a discount rate of 3 percent.

The cumulative emissions reductions at TSL 3 are 31.22 Mt of CO_2, 6.97 thousand tons of SO_2, 65.47 thousand tons of NO_X, 0.05 tons of Hg, 294.14 thousand tons of CH_4, and 0.24 thousand tons of N_2O. 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 3 is $1.89 billion. The estimated monetary value of the health benefits from reduced SO_2 and NO_X emissions at TSL 3 is $1.58 billion using a 7-percent discount rate and $3.53 billion using a 3-percent discount rate.

Using a 7-percent discount rate for consumer benefits and costs, health benefits from reduced SO_2 and NO_X emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated total NPV at TSL 3 is $9.43 billion. Using a 3-percent discount rate for all benefits and costs, the estimated total NPV at TSL

3 is $20.10 billion. The estimated total NPV is provided for additional information; however, DOE primarily relies upon the NPV of consumer benefits when determining whether a proposed standard level is economically justified.

At TSL 3, the average LCC impact is a savings of $116 for top-loading standard-size, $8 for front-loading compact, $15 for front-loading standard-size, and $280 for semi-automatic clothes washers. The simple payback period is 5.7 years for top-loading standard-size, 9.5 years for front-loading compact, 1.6 years for front-loading standard-size, and 0.5 years for semi-automatic clothes washers. The fraction of consumers experiencing a net LCC cost is 28 percent for top-loading standard-size, 22 percent for front-loading compact, 20 percent for front-loading standard-size, and zero percent for semi-automatic clothes washers. For the top-loading standard-size product class, TSL 3 would increase the first cost by $160, in comparison to an installed cost of $690 for baseline units. For the front-loading standard-size product class, TSL 3 would increase the first cost by $78, compared to an installed cost of $1,027 for baseline units. At TSL 3, the standard for top-loading ultra-compact RCWs is at the baseline, resulting in no LCC impact, no simple PBP, and no consumers experiencing a net LCC cost. Overall, across all product classes, around 25 percent of consumers would experience a net LCC cost at TSL 3. DOE estimates that about 16 percent of low-income households would experience a net LCC cost at TSL 3, and as a result of having generally smaller households and lower annual usage, about 33 percent of senior-only households would experience a net LCC cost at TSL 3. Additionally, as a result of lower costs associated with well water and septic tanks in rural areas, about 41 percent of well-water households would experience a net LCC cost at TSL 3.

At TSL 3, the projected change in INPV ranges from a decrease of $654.1 million to a decrease of $473.3 million, which correspond to a decrease of 38.3 percent and 27.7 percent, respectively. The loss in INPV is largely driven by industry conversion costs as manufacturers work to redesign their portfolios of model offerings and update production facilities to comply with amended standards at this level. Industry conversion costs could reach $724.6 million at this TSL.

For top-loading standard-size products, approximately 3 percent of shipments meet TSL 3. Of the nine OEMs offering top-loading standard-size products, two OEMs offer 20 basic models (representing approximately 4 percent of all top-loading standard-size basic models) that meet the efficiencies required by TSL 3. At this level, the remaining seven manufacturers would likely implement largely similar design options as at TSL 4, but to a lesser extent for the increase in tub size and hardware changes associated with faster spin speeds (*e.g.,* reinforced wash baskets, robust suspension and balancing systems, and advanced sensors)—which are faster than the baseline level but not as fast as TSL 4. Although top-loading standard-size RCW manufacturers indicated that meeting TSL 3 efficiencies would require a less-extensive redesign than meeting TSL 4 efficiencies, these product changes would still require significant investment.

As discussed above, manufacturers expressed concerns and presented data regarding potential impacts to product performance, including wash temperatures, cleaning and rinsing performance, and fabric care. DOE's analysis of third-party clothes washer performance ratings as well as DOE's own performance testing on a representative sample of top-loading standard-size and front-loading standard-size RCWs

suggested that TSL 3 can be achieved with key performance attributes (*e.g.,* wash temperatures, stain removal, mechanical action, and cycle duration) that are largely comparable to the performance of lower-efficiency units available on the market today. However, manufacturers presented additional data suggesting that other attributes of clothes washer performance not specifically evaluated by DOE may be negatively impacted at TSL 3 for particularly heavily soiled clothing loads, given current design technologies and approaches. For these reasons, DOE cannot be certain that the designs associated with TSL 3 efficiencies would not negatively impact certain aspects of standard-size RCW performance and consequently may jeopardize the energy and water savings that would be achieved at these efficiency levels. As with TSL 4, DOE emphasizes that its findings in this regard are based on the data available at this time and are predicated on the current state of clothes washer technology. Additional data that could become available, as well as future advances in washing technologies and design strategies, could alleviate any such concerns or uncertainties regarding product performance and could lead DOE to reach a different conclusion in a future rulemaking.

Based upon the above considerations, the Secretary tentatively concludes that at TSL 3 for RCWs, the benefits of energy and water savings, positive NPV of consumer benefits, and emission reductions would be outweighed by the potential for negative consumer utility impacts, which may jeopardize the energy and water savings that could be achieved at TSL 3, and the impacts on manufacturers, including the large potential reduction in INPV. DOE estimates the potential loss in INPV to be as high as 38 percent. The potential losses in INPV are primarily driven by large conversion costs associated with redesigning top-loading standard-size RCWs that must be made ahead of the

compliance date. Consequently, the Secretary has tentatively concluded that TSL 3 is not economically justified.

DOE then considered TSL 2, which corresponds to the TSL recommended in the Joint Agreement (the "Recommended TSL") and which also represents the ENERGY STAR v.8.1 level for the top-loading and front-loading standard-size product classes, the ENERGY STAR Most Efficient level for the front-loading compact, and a gap fill level for the semi-automatic product classes.[21] DOE's expected design path for top-loading standard-size RCWs at the Recommended TSL (which represents EL 2 for this product class) incorporates a direct drive motor, stainless steel basket and more robust suspension and balancing systems (as methods for enabling faster spin speeds), and spray rinse. Models at the Recommended TSL would also require faster spin speeds compared to the baseline (although not as fast as at TSL 3), lower water volume (but with no change to total hot water heating energy), and may include an increase in tub size compared to the baseline (as a potential means for reducing energy and water use on a per-pound of clothing basis).[22] Among these design options, use of a direct drive motor, stainless steel basket and more robust suspension and balancing systems, and faster spin speeds reduce energy use only; spray rinse reduces water use only; and the lower water volume reduces

[21] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, tables in section IV.C.2.b of that direct final rule provide the ENERGY STAR v.8.1 and ENERGY STAR Most Efficient equivalencies between the current metrics (IMEF and IWF) and the new metrics (EER and WER) for the top-loading and front-loading standard size product classes, respectively.

[22] As discussed in the direct final rule published elsewhere in this issue of the *Federal Register*, DOE's direct final rule analysis indicates that an increase in tub capacity is not required to achieve EL 2; however, manufacturers are currently implementing this design option in EL 2 models currently available on the market.

water use only. Any potential increase in tub size would reduce both energy and water use together.

For front-loading standard-size RCWs, DOE's expected design path for the Recommended TSL (which represents EL 2 for this product class) incorporates the use of a direct drive motor, spin speeds that are faster than the baseline level but not as fast as at TSL 3, and lower water volume (but with no change to total hot water heating energy). Among these design options, the direct drive motor and faster spin speeds reduce energy use only; whereas the lower water volume reduces water use only.

The Recommended TSL would save an estimated 0.67 quads of energy and 1.89 trillion gallons of water, an amount DOE considers significant. Under the Recommended TSL, the NPV of consumer benefit would be $3.28 billion using a discount rate of 7 percent, and $8.71 billion using a discount rate of 3 percent.

The cumulative emissions reductions at the Recommended TSL are 13.96 Mt of CO_2, 3.65 thousand tons of SO_2, 27.74 thousand tons of NO_X, 0.02 tons of Hg, 124.57 thousand tons of CH_4, and 0.12 thousand tons of N_2O. 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 $0.84 billion. The estimated monetary value of the health benefits from reduced SO_2 and NO_X emissions at the Recommended TSL is $0.73 billion using a 7-percent discount rate and $1.62 billion using a 3-percent discount rate.

Using a 7-percent discount rate for consumer benefits and costs, health benefits from reduced SO_2 and NO_X emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated total NPV at the Recommended TSL is $4.85 billion. Using a 3-percent discount rate for all benefits and costs, the estimated total NPV at the Recommended TSL is $11.18 billion. The estimated total NPV is provided for additional information; however, DOE primarily relies upon the NPV of consumer benefits when determining whether a proposed standard level is economically justified.

At the Recommended TSL, the average LCC impact is a savings of $111 for top-loading standard-size, $9 for front-loading compact, $46 for front-loading standard-size, and $284 for semi-automatic clothes washers. The simple payback period is 6.2 years for top-loading standard-size, 9.3 years for front-loading compact, 1.4 years for front-loading standard-size, and 0.5 years for semi-automatic clothes washers. The fraction of consumers experiencing a net LCC cost is 27 percent for top-loading standard-size, 21 percent for front-loading compact, 2 percent for front-loading standard-size, and zero percent for semi-automatic clothes washers. For the top-loading standard-size product class, The Recommended TSL would increase the first cost by $146, in comparison to an installed cost of $687 for baseline units in 2028. For the front-loading standard-size product class, the Recommended TSL would increase the first cost by $67, compared to an installed cost of $1,021 for baseline units in 2028. At the Recommended TSL, the standard for top-loading ultra-compact RCWs is at the baseline, resulting in no LCC impact, no simple PBP, and no consumers experiencing a net LCC cost. Overall, across all product classes, around 20 percent of consumers would experience a net LCC cost at

the Recommended TSL. DOE estimates that about 12 percent of low-income households would experience a net LCC cost at the Recommended TSL, and as a result of smaller households and lower annual usage, about 26 percent of senior-only households would experience a net LCC cost at the Recommended TSL. Additionally, as a result of lower costs associated with well water and septic tanks in rural areas, about 37 percent of well-water households would experience a net LCC cost at the Recommended TSL.

At the Recommended TSL, the projected change in INPV ranges from a decrease of $278.3 million to a decrease of $146.9 million, which corresponds to decreases of 16.3 percent and 8.6 percent, respectively. Industry conversion costs could reach $320.0 million at this TSL.

At this level, many existing top-loading standard-size products would need to be redesigned to meet the Recommended TSL efficiencies; however, there are a wide range of top-loading standard-size models currently available on the market due to manufacturers' participation in the ENERGY STAR program. Currently, approximately 49 percent of RCW shipments meet the Recommended TSL efficiencies, including approximately 31 percent of all top-loading standard-size shipments. Of the nine OEMs with top-loading standard-size products, six OEMs offer 166 basic models (representing approximately 30 percent of all top-loading standard-size basic models) that meet the Recommended TSL efficiencies. These six OEMs that currently offer top-loading standard-size RCW models that meet the Recommended TSL efficiencies collectively account for over 95 percent of overall top-loading standard-size RCW shipments. At this level, a substantial number of front-loading standard-size products are available on the

market due to manufacturers' participation in the ENERGY STAR program. Currently, approximately 92 percent of front-loading standard-size shipments meet the Recommended TSL. Of the seven OEMs with front-loading standard-size products, six OEMs offer 169 basic models (representing approximately 89 percent of all front-loading standard-size basic models) that meet the Recommended TSL efficiencies.

For all TSLs considered in this proposed rule—except for the Recommended TSL—DOE is bound by the 3-year lead time requirements in EPCA when determining compliance dates (*i.e.*, compliance with amended standards required in 2027). For the Recommended TSL, DOE's analysis utilized the March 1, 2028, compliance date specified in the Joint Agreement as it was an integral part of the multi-product joint recommendation. A 2028 compliance year provides manufacturers additional flexibility to spread capital requirements, engineering resources, and conversion activities over a longer period of time depending on the individual needs of each manufacturer. Furthermore, these delayed compliance dates provide additional lead time and certainty for suppliers of components that improve efficiency.

At the Recommended TSL, DOE's data demonstrates no negative impact on consumer utility for both top-loading and front-loading RCWs. Manufacturers did not provide any specific data nor express any specific concerns regarding clothes washer performance at the Recommended TSL. In addition, in the second joint statement from the same group of stakeholders that submitted the Joint Agreement states that the DOE's test data and industry experience agrees that the recommended standard level for clothes washer can maintain good cleaning performance and do not preclude the ability to

provide high wash temperatures.[23] Based on the information available, DOE concludes that no lessening of product utility or performance would occur at the Recommended TSL.

After considering the analysis and weighing the benefits and burdens, the Secretary has tentatively concluded that at a standard set at the Recommended TSL for RCWs would be economically justified. At the Recommended TSL, the average LCC savings for all product classes is positive. An estimated 27 percent of top-loading standard-size users, 21 percent of front-loading compact, 2 percent of front-loading standard-size, and zero percent of semi-automatic clothes washer consumers experience a net cost. At the Recommended TSL, the positive average LCC savings across all product classes and cost savings for approximately two-thirds of RCWs consumers, outweigh the negative average LLC savings of $20 for well-water households and the 37 percent of these households that might experience a net cost. DOE notes that its analysis ensures that the financial implications for households with wells and/or septic systems are comprehensively incorporated into the national LCC analysis. In addition, 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. Notably, the benefits to consumers vastly outweigh the cost to manufacturers. At the Recommended TSL, the NPV of consumer benefits, even measured at the more conservative discount rate of 7 percent is over 11 times higher than the maximum estimated manufacturers' loss in INPV. The standard levels at the Recommended TSL are economically justified even without

[23] This document is available in the docket at: *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0509*.

weighing the estimated monetary value of emissions reductions. When those emissions reductions are included—representing $ 0.84 billion in climate benefits (associated with the average SC-GHG at a 3-percent discount rate), and $ 1.62 billion (using a 3-percent discount rate) or $ 0.73 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. 86 FR 70892, 70908. Although DOE has not conducted a comparative analysis to select the amended energy conservation standards, DOE notes that as compared to TSL 4 and TSL 3, the Recommended TSL has a lower maximum decrease in INPV and lower manufacturer conversion costs.

Accordingly, the Secretary has tentatively concluded that the Recommended TSL would offer the maximum improvement in efficiency that is technologically feasible and economically justified and would result in the significant conservation of energy.

Therefore, based on the previous considerations, DOE proposes to adopt the energy conservation standards for RCWs 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, the Recommended TSL for RCWs proposed in this NOPR is part of a multi-product Joint Agreement covering six rulemakings (RCWs; consumer clothes dryers; consumer conventional cooking products; dishwashers; refrigerators, refrigerator-freezers, and freezers; and miscellaneous refrigeration products). 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. (Joint Agreement, No. 505 at p. 3) As discussed in section V.B.2.e of the direct final rule published elsewhere in this issue of the *Federal Register*, many RCW OEMs also manufacture consumer clothes dryers; consumer conventional cooking products; dishwashers; refrigerators, refrigerator-freezers, and freezers; and miscellaneous refrigeration products. Therefore, there are potential integrated benefits to the Joint Agreement. Rather than requiring compliance with five amended standards in a single year (2027),[24] 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 reduce cumulative regulatory burden by allowing greater flexibility in the allocation of resources to comply with multiple concurrent amended standards and by aligning compliance dates for products that are typically designed or sold as matched pairs (*i.e.*, clothes washers and clothes dryers). The Joint Agreement also provides additional years

[24] The analyses for residential clothes washers (88 FR 13520); consumer clothes dryers (87 FR 51734); consumer conventional cooking products (88 FR 6818); dishwashers (88 FR 32514); and refrigerators, refrigerator-freezers, and freezers (88 FR 12452) utilized a 2027 compliance year for analysis at the proposed rule stage. Miscellaneous refrigeration products (88 FR 12452) utilized a 2029 compliance year for the NOPR analysis.

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 RCWs, which are expressed in EER and WER, are shown in Table III.3.

Table III.3 Proposed Energy Conservation Standards for Residential Clothes Washers

Product Class	Minimum Energy Efficiency Ratio *(lb/kWh/cycle)*	Minimum Water Efficiency Ratio *(lb/gal/cycle)*
Automatic Clothes Washers		
Top-Loading Ultra-Compact (less than 1.6 ft^3 capacity)	3.79	0.29
Top-Loading Standard-Size (1.6 ft^3 or greater capacity)	4.27	0.57
Front-Loading Compact (less than 3.0 ft^3 capacity)	5.02	0.71
Front-Loading Standard-Size (3.0 ft^3 or greater capacity)	5.52	0.77
Semi-Automatic Clothes Washers	2.12	0.27

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.

Table III.4 shows the annualized values for RCWs 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 health benefits from reduced NO_X and SO_2 emissions, and the 3-percent discount rate case for climate benefits from reduced GHG emissions, the estimated cost of the standards proposed in this rule is $530.1 million per year in increased equipment costs, while the estimated annual benefits are $853.9 million in reduced equipment operating costs, $46.9 million in climate benefits, and $71.9 million in health benefits. In this case, the net benefit would amount to $442.5 million per year.

Using a 3-percent discount rate for all benefits and costs, the estimated cost of the proposed standards is $513.1 million per year in increased equipment costs, while the estimated annual benefits are $998.9 million in reduced operating costs, $46.9 million in climate benefits, and $90.3 million in health benefits. In this case, the net benefit would amount to $623.0 million per year.

Table III.4 Annualized Benefits and Costs of Proposed Standards (Recommended TSL) for Residential Clothes Washers (2028–2057)

	Million 2022$/year		
	Primary Estimate	**Low-Net-Benefits Estimate**	**High-Net-Benefits Estimate**
3% discount rate			
Consumer Operating Cost Savings	998.9	957.2	1,020.9
Climate Benefits*	46.9	45.2	47.5
Health Benefits**	90.3	87.1	91.6
Total Benefits†	1,136.1	1,089.5	1,160.0
Consumer Incremental Product Costs‡	513.1	551.8	468.6
Net Benefits	623.0	537.7	691.4
Change in Producer Cash Flow (INPV‡‡)	(27) - (14)	(27) - (14)	(27) - (14)
7% discount rate			
Consumer Operating Cost Savings	853.9	821.2	871.7
Climate Benefits* (3% discount rate)	46.9	45.2	47.5
Health Benefits**	71.9	69.6	72.8
Total Benefits†	972.6	935.9	992.0
Consumer Incremental Product Costs‡	530.1	564.6	489.5
Net Benefits	442.5	371.3	502.5
Change in Producer Cash Flow (INPV‡‡)	(27) - (14)	(27) - (14)	(27) - (14)

Note: This table presents the costs and benefits associated with RCWs shipped in 2028−2057. These results include consumer, climate, and health benefits that accrue after 2057 from the products shipped in 2028−2057. 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 sections IV.F.1 and 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 global SC-GHG (*see* section IV.L of the direct final rule published elsewhere in this issue of the *Federal Register*). 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_X and SO_2. DOE is currently only monetizing (for SO_2 and NO_X) $PM_{2.5}$ precursor health benefits and (for NO_X) ozone precursor health benefits, but will continue to assess the ability to monetize other effects such as health benefits from reductions in direct $PM_{2.5}$ 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 as well as installation 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 impact 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 (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 9.3 percent that is estimated in the MIA (*see* chapter 12 of the direct final rule TSD for a complete description of the industry weighted average cost of capital). For RCWs, the annualized change in INPV ranges from -$27 million to -$14 million. DOE accounts for that range of likely impacts in analyzing whether a TSL 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 annualized 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 proposed rule 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 annualized change in INPV into the annualized net benefit calculation for this proposed rule, the annualized net benefits, using the primary estimate, would range from $596 million to $609 million at 3-percent discount rate and would range from $415 million to $428 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 unit 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. Comments relating to the direct final rule published elsewhere in this issue of the *Federal Register*, should be submitted as instructed therein.

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 also will 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. Severability

DOE proposes adding a new paragraph (ii) into section 10 CFR 430.32(g)(2) to provide that each energy and water conservation for each RCW category is separate and severable from one another, and that if any energy or water conservation standard is stayed or determined to be invalid by a court of competent jurisdiction, the remaining

standards shall continue in effect. This severability clause is intended to clearly express the Department's intent that should an energy or water conservation standard for any product class be stayed or invalidated, the other conservation standards shall continue in effect. In the event a court were to stay or invalidate one or more energy or water conservation standards for any product class as finalized, the Department would want the remaining energy conservation standards as finalized to remain in full force and legal effect.

VI. 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 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*). DOE has prepared the following IRFA for the products that are the subject of this proposed rulemaking.

For manufacturers of RCWs, the 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*. Manufacturing of RCWs is classified under NAICS 335220, "Major Household Appliance Manufacturing." The SBA sets a threshold of 1,500 employees or fewer for an entity to be considered as a small business for this category.

1. Description of Reasons Why Action Is Being Considered

EPCA prescribed energy conservation standards for these products (42 U.S.C. 6295(g)(2) and (9)(A)), and directs DOE to conduct future rulemakings to determine whether to amend these standards. (42 U.S.C. 6295(g)(4) and (9)(B)) 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)) This proposed rulemaking is in accordance with DOE's obligations under EPCA.

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 RCWs. 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.[25] This letter, titled "Energy Efficiency Agreement of 2023" (hereafter, the "Joint Agreement"[26]), recommends specific energy conservation standards for RCWs that, in the commenters' view, would satisfy the EPCA requirements in 42 U.S.C. 6295(o).

[25] 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 Home Appliances Corporation; Danby Products, Ltd.; Electrolux Home Products, Inc.; Elicamex S.A. de C.V.; Faber; Fotile America; GE Appliances, 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 Electronics America Inc.; Sharp Electronics Corporation; Smeg S.p.A; Sub-Zero Group, Inc.; The Middleby Corporation; U-Line Corporation; Viking Range, LLC; and Whirlpool Corporation.

[26] The Joint Agreement is available in the docket at *www.regulations.gov/comment/EERE-2017-BT-STD-0014-0505*.

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 sets forth a variety of provisions designed to improve energy efficiency and established the Energy Conservation Program for Consumer Products Other Than Automobiles. These products include RCWs, the subject of this document. (42 U.S.C. 6292(a)(7)) EPCA prescribed energy conservation standards for these products (42 U.S.C. 6295(g)(2) and (9)(A)), and directs DOE to conduct future rulemakings to determine whether to amend these standards. (42 U.S.C. 6295(g)(4) and (9)(B))

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 RCWs. DOE began its assessment by reviewing DOE's CCD,[27] California Energy Commission's Modernized Appliance Efficiency Database System,[28] ENERGY STAR's Product Finder data set,[29] individual company websites, and prior RCW rulemakings to identify manufacturers of the covered product. DOE then consulted publicly available data, such as manufacturer websites, manufacturer specifications and product literature,

[27] U.S. Department of Energy's Compliance Certification Database is available at *www.regulations.doe.gov/certification-data/#q=Product_Group_s%3A** (last accessed June 29, 2023).
[28] California Energy Commission's Modernized Appliance Efficiency Database System is available at *cacertappliances.energy.ca.gov/Pages/ApplianceSearch.aspx* (last accessed June 29, 2023).
[29] U.S. Environmental Protection Agency's ENERGY STAR Product Finder is available at *www.energystar.gov/productfinder/* (last accessed June 29, 2023).

import/export logs (*e.g.,* bills of lading from Panjiva[30]), and basic model numbers, to identify original equipment manufacturers ("OEMs") of RCWs. DOE further relied on public data and subscription-based market research tools (*e.g.,* Dun & Bradstreet reports[31]) to determine company location, headcount, and annual revenue. DOE also asked industry representatives if they were aware of any small manufacturers during manufacturer interviews. 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.

DOE identified 22 OEMs that sell covered RCWs in the United States. Of the 22 OEMs identified, DOE determined that one company qualifies as a small business and is not foreign-owned and operated.

In support of the March 2023 NOPR, DOE reached out to the small business and invited participation in a voluntary interview. The small business did not respond to DOE's interview request. DOE also requested information about small businesses and potential impacts on small businesses while interviewing large manufacturers.

[30] S&P Global. Panjiva Market Intelligence is available at *panjiva.com/import-export/United-States* (last accessed June 30, 2023).
[31] D&B Hoovers subscription login is accessible at: *app.dnbhoovers.com/* (last accessed November 1, 2023).

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

DOE is proposing TSL 2 in this NOPR. As stated in the previous section, DOE identified one OEM that qualifies as a small business. This small business manufactures one top-loading standard-size clothes washer model for residential use. DOE identified this manufacturer through the prior rulemaking analysis. 77 FR 32307. There is limited public information about the energy and water efficiency of this small business's RCW model. Furthermore, DOE's review of the product suggests that the manufacturer would likely need to make significant investments to redesign the product to meet this efficiency level. Therefore, DOE is unable to conclude that the proposed rule would not have a "significant impact on a substantial number of small entities."

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 the 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 2. In reviewing alternatives to the proposed standards, DOE examined energy conservation standards set at lower efficiency levels. While TSL 1 would reduce the impacts on small business manufacturers, it would come at the expense of a reduction in energy and water savings.

TSL 1 achieves 13 percent lower energy savings and 38 percent lower water savings compared to the energy and water savings at TSL 2.

Based on the presented discussion, establishing standards at TSL 2 balances the benefits of the energy savings at TSL 2 with the potential burdens placed on RCW 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.

VII. 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, Reporting and recordkeeping requirements, Small businesses.

Signing Authority

This document of the Department of Energy was signed on February 29, 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 February 29, 2024.

X Jeffrey M. Marootian Digitally signed by Jeffrey M. Marootian Date: 2024.02.29 18:22:39 -05'00'

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 (g) to read as follows:

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

* * * * *

(g) Clothes washers

(1) Clothes washers manufactured on or after January 1, 2018, shall have an Integrated Modified Energy Factor no less than, and an Integrated Water Factor no greater than:

Product class	**Integrated modified energy factor** *(cu.ft./kWh/cycle)*	**Integrated water factor** *(gal/cycle/cu.ft.)*
(i) Top-loading, Compact (less than 1.6 ft^3 capacity)	1.15	12.0
(ii) Top-loading, Standard (1.6 ft^3 or greater capacity)	1.57	6.5
(iii) Front-loading, Compact (less than 1.6 ft^3 capacity)	1.13	8.3

(iv) Front-loading, Standard (1.6 ft^3 or greater capacity)	1.84	4.7

(2) Clothes washers manufactured on or after March 1, 2028

(i) shall have an Energy Efficiency Ratio and a Water Efficiency Ratio no less than:

Product Class	**Energy Efficiency Ratio** *(lb/kWh/cycle)*	**Water Efficiency Ratio** *(lb/gal/cycle)*
(A) Automatic Clothes Washers:		
(*1*) Top-Loading Ultra-Compact (less than 1.6 ft^3 capacity)	3.79	0.29
(*2*) Top-Loading Standard-Size (1.6 ft^3 or greater capacity)*	4.27	0.57
(*3*) Front-Loading Compact (less than 3.0 ft^3 capacity)**	5.02	0.71
(*4*) Front-Loading Standard-Size (3.0 ft^3 or greater capacity)†	5.52	0.77
(B) Semi-Automatic Clothes Washers:	2.12	0.27

* The energy conservation standards in this table do not apply to top-loading standard-size clothes washers with an average cycle time less than 30 minutes.
** The energy conservation standards in this table do not apply to front-loading clothes washers with a capacity greater than or equal to 1.6 ft^3 and less than 3.0 ft^3 with an average cycle time of less than 45 minutes.
† The energy conservation standards in this table do not apply to front-loading standard-size clothes washers with an average cycle time less than 45 minutes.

(ii) The provisions of paragraph (g)(2) of this section are separate and severable from one another. Should a court of competent jurisdiction hold any provision(s) of this section to be stayed or invalid, such action shall not affect any other provisions of this section.

* * * * *