DEPARTMENT OF ENERGY

10 CFR Part 431

[EERE–2019–BT–STD–0034]

RIN 1905–AE56

Energy Conservation Program: Energy Conservation Standards for Commercial Prerinse Spray Valves

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

ACTION: Notification of proposed determination and request for comment.

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 commercial prerinse spray valves (''CPSVs''). EPCA also requires the U.S. Department of Energy (''DOE'' or ''the Department'') to periodically determine whether more-stringent, amended standards would be technologically feasible and economically justified, and would result in significant energy savings. In this notification of proposed determination (''NOPD''), DOE has initially determined that amended energy conservation standards for commercial prerinse spray valves are not needed. DOE requests comment on this proposed determination and the associated analyses and results.

DATES:

Meeting: DOE will hold a webinar on Wednesday, September 1, 2021, from 10:00 a.m. to 3:00 p.m. See section VII, ''Public Participation,'' for webinar registration information, participant instructions, and information about the capabilities available to webinar participants.

Comments: Written comments and information are requested and will be accepted on or before October 18, 2021. See section VII, ''Public Participation,'' for details.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at *www.regulations.gov.* Follow the instructions for submitting comments. Alternatively, interested persons may submit comments by email to the following address: *CPSV2019STD0034@ee.doe.gov.* Include a docket number EERE–2019–BT–STD–0034 and/or RIN number 1904–AE56 in the subject line of the message. Submit electronic comments in WordPerfect, Microsoft Word, PDF, or ASCII file format, and avoid the use of special characters or any form of encryption.

Although DOE has routinely accepted public comment submissions through a variety of mechanisms, including postal mail and hand delivery/courier, DOE has found it necessary to make temporary modifications to the comment submission process in light of the ongoing Covid-19 pandemic. DOE is currently accepting only electronic submissions at this time. If a commenter finds that this change poses an undue hardship, please contact Appliance and Equipment Standards Program staff at (202) 586–1445 to discuss the need for alternative arrangements. Once the Covid-19 pandemic health emergency is resolved, DOE anticipates resuming all of its regular options for public comment submission, including postal mail and hand delivery/courier.

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

Docket: The docket, which includes **Federal Register** notices, public meeting attendee lists and transcripts (if one is held), 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 web page can be found at *https://www.regulations.gov/docket/EERE-2019-BT-STD-0034.* The docket web page contains instructions on how to access all documents, including public comments, in the docket. See section VII, ''Public Participation,'' for further information on how to submit comments through *www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Mr. Bryan Berringer, 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. *Email: ApplianceStandardsQuestions@ee.doe.gov.*

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

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Synopsis of the Proposed Determination

Title III, Part B [1] of EPCA,[2] established the Energy Conservation Program for Consumer Products Other Than Automobiles. (42 U.S.C. 6291–6309) These products include commercial prerinse spray valves, the subject of this NOPD.[3]

DOE is issuing this NOPD pursuant to the EPCA requirement that not later than 6 years after issuance of any final rule establishing or amending a standard, DOE must publish either a notification of determination that standards for the product do not need to be amended, or a notice of proposed rulemaking (''NOPR'') including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6295(m))

For this proposed determination, DOE analyzed commercial prerinse spray valves subject to standards specified in title 10 of the Code of Federal Regulations (''CFR'') § 431.266.

DOE first analyzed the technological feasibility of more energy (water) efficient commercial prerinse spray valves and commercial prerinse spray valves with lower energy use. For those commercial prerinse spray valves for which DOE determined higher standards to be technologically feasible, DOE estimated energy savings that would result from potential energy conservation standards by conducting a national impacts analysis (''NIA''). DOE evaluated whether higher standards would be cost effective by conducting life-cycle cost (''LCC'') and payback period (''PBP'') analyses and estimated the net present value (''NPV'') of the total costs and benefits experienced by consumers.

Based on the results of the analyses, summarized in section V of this document, and comments received in response to the early assessment request for information (''RFI'') published in June 2020 (''June 2020 RFI''; see 85 FR 35383 (Jun. 10, 2020)), DOE has tentatively determined that current standards for commercial prerinse spray valves do not need to be amended because any potential benefits are outweighed by the risk of increased energy and water usage due to the increased risk of product switching, costs, and additional burden to manufacturers.

II. Introduction

The following section briefly discusses the statutory authority underlying this proposed determination, as well as some of the historical background relevant to the establishment of standards for commercial prerinse spray valves.

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 commercial prerinse spray valves, the subject of this document. (42 U.S.C. 6291(33)) EPCA prescribed energy conservation standards (in terms of flow rate) for these products (42 U.S.C. 6295(dd)) and directs DOE to conduct future rulemakings to determine whether to amend these standards. (42 U.S.C. 6295(m))

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).

Subject to certain criteria and conditions, DOE is required to develop test procedures to measure the energy efficiency, energy use, or estimated annual operating cost of each covered product. (42 U.S.C. 6295(o)(3)(A) and 42 U.S.C. 6295(r)) Manufacturers of covered products must use the prescribed DOE test procedure as the basis for certifying to DOE that their products comply with the applicable energy conservation standards adopted under EPCA and when making representations to the public regarding the energy use or efficiency of those products. (42 U.S.C. 6293(c) and 42 U.S.C. 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 commercial prerinse spray valves appear at 10 CFR 431.264.

Federal energy conservation requirements generally supersede State laws or regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297(a)–(c)) California, however, has a statutory exemption to preemption for commercial prerinse spray valve standards adopted by the California Energy Commission before January 1, 2005. (42 U.S.C. 6297(c)(7)) As a result, while Federal commercial prerinse spray valve standards apply in California, California's commercial prerinse spray valve standards also apply for standards adopted before January 1, 2005, as they were exempt from preemption. In 2018, California revised its regulations so that the maximum flow rate requirements align with those implemented by DOE for commercial prerinse spray valves. DOE may, however, grant waivers of Federal preemption for particular State laws or

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

[2] 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).

[3] Because Congress included commercial prerinse spray valves in Part B of Title III of EPCA, the consumer product provisions of Part B (not the industrial equipment provisions of Part C) apply to commercial prerinse spray valves. However, because commercial prerinse spray valves are commonly considered to be commercial equipment, as a matter of administrative convenience and to minimize confusion among interested parties, DOE placed the requirements for commercial prerinse spray valves into subpart O of 10 CFR part 431. Part 431 contains DOE regulations for commercial and industrial equipment. DOE refers to commercial prerinse spray valves as either ''products'' or ''equipment.''

regulations, in accordance with the procedures and other provisions set forth under EPCA. (See 42 U.S.C. 6297(d))

Pursuant to the amendments contained in the Energy Independence and Security Act of 2007 (''EISA 2007''), Public Law 110–140, any final rule for new or amended energy conservation standards promulgated after July 1, 2010, is 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)) Because commercial prerinse spray valves only consume energy and water in active mode, DOE's test procedures for commercial prerinse spray valves do not address standby mode and off mode energy use as they are not applicable for this product.

DOE must periodically review its already established energy conservation standards for a covered product no later than 6 years from the issuance of a final rule establishing or amending a standard for a covered product. (42 U.S.C. 6295(m)) This 6-year look-back provision requires that DOE publish either a determination that standards do not need to be amended or a NOPR, including new proposed standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6295(m)(1)(A)–(B)) EPCA further provides that, not later than 3 years after the issuance of a final determination not to amend standards, DOE must publish either a notification of determination that standards for the product do not need to be amended, or a NOPR including new proposed energy conservation standards (proceeding to a final rule, as appropriate). (42 U.S.C. 6295(m)(3)(B)) DOE must make the analysis on which a determination is based publicly available and provide an opportunity for written comment. (42 U.S.C. 6295(m)(2))

A determination that amended standards are not needed must be based on consideration of whether amended standards will result in significant conservation of energy, are technologically feasible, and are cost effective. (42 U.S.C. 6295(m)(1)(A) and 42 U.S.C. 6295(n)(2)) Additionally, any new or amended energy conservation standard prescribed by the Secretary of Energy (''Secretary'') for any type (or class) of covered product shall be designed to achieve the maximum improvement in energy efficiency which the Secretary determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) Among the factors DOE considers in evaluating whether a proposed standard level is economically justified includes whether the proposed standard at that level is cost-effective, as defined under 42 U.S.C. 6295(o)(2)(B)(i)(II). Under 42 U.S.C. 6295(o)(2)(B)(i)(II), an evaluation of cost-effectiveness requires DOE to consider 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. (42 U.S.C. 6295(n)(2) and 42 U.S.C. 6295(o)(2)(B)(i)(II))

DOE is publishing this NOPD in satisfaction of the 6-year review requirement in EPCA.

B. Background

1. Current Standards

In a final rule published on January 27, 2016, (''January 2016 Final Rule''), DOE prescribed the current energy conservation standards for commercial prerinse spray valves manufactured on and after January 28, 2019. 81 FR 4748. These standards prescribe a maximum flow rate in gallons per minute (''gpm'') for each product class and are set forth in DOE's regulations at 10 CFR 431.266 and repeated in Table II.1.

TABLE II.1—FEDERAL ENERGY CONSERVATION STANDARDS FOR COMMERCIAL PRERINSE SPRAY VALVES

Product class (spray force in ounce-force, ozf)	Flow rate (gpm)
Product Class 1 (≤5.0 ozf)	1.00
Product Class 2 (>5.0 ozf and ≤8.0 ozf)	1.20
Product Class 3 (>8.0 ozf)	1.28

2. History of Standards Rulemakings for Commercial Prerinse Spray Valves

In support of the present review of the CPSV energy conservation standards, on June 10, 2020, DOE published the June 2020 RFI, which identified various issues on which DOE sought comment to inform its determination of whether the standards need to be amended. 85 FR 35383. DOE was specifically interested in collecting data and information that could enable the agency to determine whether it should propose a ''no new standard'' determination because a more stringent standard: (1) Would not result in a significant savings of energy, (2) is not technologically feasible, (3) is not economically justified, or (4) any combination of foregoing. *Id.* at 85 FR 35385. In response to a comment received, DOE published on July 20, 2020, a reopening of public comment period extending the comment period for an additional 30 days. 85 FR 43748.

DOE received comments in response to the June 2020 RFI from the interested parties listed in Table II.2.

TABLE II.2—JUNE 2020 RFI WRITTEN COMMENTS

Organization(s)	Reference in this NOPD	Organization type
Appliance Standards Awareness Project	ASAP	Efficiency Organization.
Northwest Energy Efficiency Alliance	NEEA	Efficiency Organization.
Pacific Gas and Electric Company, San Diego Gas and Electric, and Southern California Edison.	CA IOUs	Utilities.
Plumbing Manufacturers Inc	PMI	Trade Association.

A parenthetical reference at the end of a comment quotation or paraphrase provides the location of the item in the public record.[4]

III. General Discussion

DOE developed this proposed determination after considering comments, data, and information from interested parties that represent a variety of interests. This document addresses issues raised by these commenters.

A. Product Classes and Scope of Coverage

When evaluating and establishing energy conservation standards, DOE divides covered products into product classes by the type of energy used or by capacity or other performance-related features that justify differing standards. In making a determination whether a performance-related feature justifies a different standard, DOE must consider such factors as the utility of the feature to the consumer and other factors DOE determines are appropriate. (42 U.S.C. 6295(q)) The CPSV classes for this proposed determination are discussed in further detail in section IV.A.4 of this document. This proposed determination covers commercial prerinse spray valves defined as a handheld device that has a release-to-close valve and is suitable for removing food residue from food service items before cleaning them in commercial dishwashing or ware washing equipment. 10 CFR 431.262 The scope of coverage is discussed in further detail in section IV.A.1 of this document.

B. Test Procedure

EPCA sets forth generally applicable criteria and procedures for DOE's adoption and amendment of test procedures. (42 U.S.C. 6293) Manufacturers of covered products must use these test procedures to certify to DOE that their product complies with energy conservation standards and to quantify the efficiency of their product. (42 U.S.C. 6295(s) and 42 U.S.C. 6293(c)) DOE will finalize a test procedure establishing methodologies used to evaluate proposed energy conservation standards at least 180 days prior to publication of a NOPR proposing new or amended energy conservation standards. Section 8(d) of appendix A to 10 CFR part 430, subpart C (''Process Rule''). DOE's current energy conservation standards for commercial prerinse spray valves are expressed in terms of gpm. 10 CFR 431.266

DOE published a test procedure final rule on December 30, 2015, which incorporated by reference the 2013 version of ASTM International (''ASTM'') Standard F2324 (''ASTM F2324–13''). 80 FR 81441 (''December 2015 Final Rule''). In the December 2015 Final Rule, DOE also revised the definition of ''commercial prerinse spray valve,'' made minor changes to the DOE flow rate test method, and added a definition and test method for ''spray force.'' The test procedures for commercial prerinse spray valves are codified in 10 CFR 431.264.

On June 5, 2020, DOE published an RFI soliciting public comment and data on all aspects of the existing DOE test procedure for commercial prerinse spray valves, including (1) the scope and definition of the test procedure, (2) incorporation of the reaffirmed industry standard, and (3) the representativeness of the test water pressure. 85 FR 34541 On May 20, 2021 DOE published a test procedure NOPR, which proposed updates to incorporate the 2019 reaffirmed version of ASTM Standard F2324, ASTM F2324–13 (2019). 86 FR 27298, 27302. DOE has initially determined that this change to the version referenced would not impact the measured flow rate. *Id.* DOE also proposed revising the definition of ''commercial prerinse spray valve'' to clarify which valves are covered products but did not propose to change the scope of valves that are covered. *Id.*

C. Technological Feasibility

1. General

In evaluating potential amendments to energy conservation standards, DOE conducts a screening analysis based on information gathered on all current technology options and prototype designs that could improve the efficiency of the products or equipment that are the subject of the determination. As the first step in such an analysis, DOE develops a list of technology options for consideration in consultation with manufacturers, design engineers, and other interested parties. DOE then determines which of those means for improving efficiency are technologically feasible. DOE considers technologies incorporated in commercially available products or in working prototypes to be technologically feasible. Sections 6(c)(3)(i) and 7(b)(1) of appendix A to 10 CFR part 430, subpart C.

After DOE has determined that particular technology options are technologically feasible, it further evaluates each technology option in light of the following additional screening criteria: (1) Practicability to manufacture, install, and service; (2) adverse impacts on product utility or availability; (3) adverse impacts on health or safety; and (4) unique-pathway proprietary technologies. Sections 6(c)(3)(ii)–(v) and 7(b)(2)–(5) of appendix A to 10 CFR part 430, subpart C. Section IV.A.3 of this document discusses the results of the screening analysis for commercial prerinse spray valves, particularly the designs DOE considered, those it screened out, and those that are the basis for the standards considered in this proposed determination. For further details on the screening analysis for this proposed determination, see chapter 4 of the NOPD technical support document (''TSD'').

2. Maximum Technologically Feasible Levels

When DOE proposes to adopt an amended standard for a type or class of covered product, it must determine the maximum improvement in energy efficiency or maximum reduction in energy use that is technologically feasible for such a product. (42 U.S.C. 6295(p)(1)) Accordingly, in the engineering analysis, DOE determined the maximum technologically feasible (''max-tech'') improvements in energy efficiency for commercial prerinse spray valves, using the design parameters for the most efficient products available on the market or in working prototypes. The max-tech levels that DOE determined for this analysis are described in section IV.B of this document and in chapter 5 of the NOPD TSD.

D. Energy Savings

1. Determination of Savings

For each efficiency level (''EL'') evaluated, DOE projected energy savings from application of the efficiency level to the commercial prerinse spray valves purchased in the 30-year period that begins in the assumed year of compliance with the potential standards (2027–2056). The savings are measured over the entire lifetime of the commercial prerinse spray valves purchased in the previous 30-year period. DOE quantified the energy savings attributable to each efficiency level as the difference in energy consumption between each standards case and the no-new-standards case. The no-new-standards case represents a

[4] The parenthetical reference provides a reference for information located in the docket. (Docket No. EERE–2019–BT–STD–0034, which is maintained at *https://www.regulations.gov/docket/EERE-2019-BT-STD-0034*). The references are arranged as follows: (commenter name, comment docket ID number, page of that document).

projection of energy consumption that reflects how the market for a product would likely evolve in the absence of amended energy conservation standards.

DOE used its NIA spreadsheet model to estimate national energy savings (''NES'') from potential amended or new standards for commercial prerinse spray valves. The NIA spreadsheet model (described in section IV.G of this document) calculates energy savings in terms of site energy, which is the energy directly consumed by products at the locations where they are used. For electricity, DOE reports NES in terms of both site and primary energy savings, which is the savings in the energy that is used to generate and transmit the site electricity. DOE also calculates NES in terms of full-fuel-cycle (''FFC'') energy savings. The FFC metric includes the energy consumed in extracting, processing, and transporting primary fuels (*i.e.,* coal, natural gas, petroleum fuels), and thus presents a more complete picture of the impacts of energy conservation standards.[5] DOE's approach is based on the calculation of an FFC multiplier for each of the energy types used by covered products or equipment. For more information on FFC energy savings, see section IV.G of this document.

2. Significance of Savings

In determining whether amended standards are needed, DOE must consider whether such standards will result in significant conservation of energy. (42 U.S.C. 6295(m)(1)(A)) On February 14, 2020, DOE published an update to its procedures, interpretations, and policies for consideration in new or revised energy conservation standards and test procedure, *i.e.,* ''Procedures, Interpretations, and Policies for Consideration of New or Revised Energy Conservation Standards and Test Procedures for Consumer Products and Certain Commercial/Industrial Equipment'' (see 10 CFR part 430, subpart C, appendix A).[6] 85 FR 8626. In the updated Process Rule, DOE established a significance threshold for energy savings under which DOE employs a two-step approach that considers both an absolute site energy savings threshold and a threshold that is a percent reduction in the energy use of the covered product. Section 6(a) of the appendix A to 10 CFR part 430, subpart C.

DOE first evaluates the projected energy savings from a potential max-tech standard over a 30-year period against a 0.3 quadrillion British thermal units (''quads'') of site energy savings threshold. Section 6(b)(2) of appendix A to 10 CFR part 430, subpart C. If the 0.3-quad threshold is not met, DOE then compares the max-tech savings to the total energy usage of the covered product to calculate a percentage reduction in energy usage. Section 6(b)(3) of appendix A to 10 CFR part 430, subpart C. If this comparison does not yield a reduction in site energy use of at least 10 percent over a 30-year period, the analysis will end and DOE will propose to determine that no significant energy savings would likely result from setting new or amended standards. Section 6(b)(4) of appendix A to 10 CFR part 430, subpart C. If either one of the thresholds is reached, DOE will conduct analyses to ascertain whether a standard can be prescribed that produces the maximum improvement in energy efficiency that is both technologically feasible and economically justified and still constitutes significant energy savings at the level determined to be economically justified. Section 6(b)(5) of appendix A to 10 CFR part 430, subpart C. This two-step approach allows DOE to ascertain whether a potential standard satisfies EPCA's significant energy savings requirements in 42 U.S.C. 6295(o)(3)(B) to ensure that DOE avoids setting a standard that ''will not result in significant conservation of energy.''

EPCA defines ''energy efficiency'' as the ratio of the useful output of services from a consumer product to the *energy use* of such product, measured according to the Federal test procedures. (42 U.S.C. 6291(5), *emphasis added*) EPCA defines ''energy use'' as the quantity of energy directly consumed by a consumer product at point of use, as measured by the Federal test procedures. (42 U.S.C. 6291(4)) Further, EPCA uses a household energy consumption metric as a threshold for setting standards for new covered products. (42 U.S.C. 6295(l)(1)) Given this context, DOE relies on site energy as the appropriate metric for evaluating the significance of energy savings.

DOE noted in the June 2020 RFI that the significant water savings requirement does not apply to prerinse spray valves. 85 FR 35383, 35385. DOE cites 42 U.S.C. 6295(o)(3)(B), which specifies significant conservation of water for only ''showerheads, faucets, water closets, or urinals''. DOE also stated that the prohibition on amending a standard to allow greater water use does not apply to prerinse spray valves. *Id.* DOE cites 42 U.S.C. 6295(o)(1), which similarly prohibits the prescription of any amended standard that increases the maximum allowable water use of only showerheads, faucets, water closets, or urinals.

The CA IOUs commented that because commercial prerinse spray valves use heated water, any standard that increased the flow rate would be in conflict with EPCA's prohibition on increasing maximum allowable energy use as specified in 42 U.S.C. 6295(o)(1). (CA IOUs, No. 6 at p. 4)

As discussed, DOE is not proposing to amend the energy conservation standards for commercial prerinse spray valves (*i.e.,* DOE is not proposing to amend the maximum flow rates). For this proposed determination, DOE analyzed the maximum possible savings relative to the potential for consumers to switch to equipment or products with a higher flow rate, such as faucets, in response to more stringent standards.

E. Cost Effectiveness

In making a determination of whether amended energy conservation standards are needed, EPCA requires DOE to consider the cost effectiveness of amended standards in the context of the savings in operating costs throughout the estimated average life of the covered product compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered product that are likely to result from a standard. (42 U.S.C. 6295(m)(1)(A), 42 U.S.C. 6295(n)(2), and 42 U.S.C. 6295(o)(2)(B)(i)(II))

In determining cost effectiveness of amending standards for commercial prerinse spray valves, DOE conducted

[5] The FFC metric is discussed in DOE's statement of policy and notice of policy amendment. 76 FR 51282 (Aug. 18, 2011), as amended at 77 FR 49701 (Aug. 17, 2012).

[6] On January 20, 2021, the President issued Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.* Exec. Order No. 13,990, 86 FR 7037 (Jan. 25, 2021) (''E.O. 13990''). E.O. 13990 affirms the Nation's commitment to empower our workers and communities; promote and protect our public health and the environment; and conserve our national treasures and monuments. To that end, the stated policies of E.O. 13990 include: Improving public health and protecting our environment; ensuring access to clean air and water; and reducing greenhouse gas emissions. E.O. 13990 section 1. Section 2 of E.O. 13990 directs agencies, in part, to immediately review all existing regulations, orders, guidance documents, policies, and any other similar agency actions (''agency actions'') promulgated, issued, or adopted between January 20, 2017, and January 20, 2021, that are or may be inconsistent with, or present obstacles to, the policy set forth in the Executive Order. E.O. 13990 section 2. In addition, section 2(iii) of E.O. 13990 specifically directs DOE to, as appropriate and consistent with applicable law, publishing for notice and comment a proposed rule suspending, revising, or rescinding the updated Process Rule. In response to this directive, DOE has undertaken a review of the updated Process Rule. See, 86 FR 18901 (Apr. 12, 2021) and 86 FR 35668 (July 7, 2021).

LCC and PBP analyses that estimate the costs and benefits to users from standards. To further inform DOE's consideration of the cost effectiveness of amended standards, DOE considered the NPV of total costs and benefits estimated as part of the NIA. The inputs for determining the NPV of the total costs and benefits experienced by consumers are (1) total annual installed cost, (2) total annual operating costs (energy costs and repair and maintenance costs), and (3) a discount factor to calculate the present value of costs and savings.

F. Further Considerations

As stated previously, pursuant to EPCA, absent DOE publishing a notification of determination that energy conservation standards for commercial prerinse spray valves do not need to be amended, DOE must issue a NOPR that includes new proposed standards. (42 U.S.C. 6295(m)(1)(B)) The new proposed standards in any such NOPR must be based on the criteria established under 42 U.S.C. 6295(o) and follow the procedures established under 42 U.S.C. 6295(p). (42 U.S.C. 6295(m)(1)(B)) The criteria in 42 U.S.C. 6295(o) require that standards be designed to achieve the maximum improvement in energy efficiency, which the Secretary determines is technologically feasible and economically justified. (42 U.S.C. 6295(o)(2)(A)) 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 for, or maintenance expenses of 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))

As discussed in the January 2016 Final Rule, DOE found that amended standards at a level more stringent than those adopted would not be economically justified under the considerations of the seven factors prescribed in EPCA. 81 FR 4748, 4794. Specifically, the Secretary concluded that at the more stringent standards levels the benefits of energy savings, positive NPV of consumer benefits, emission reductions, and the estimated monetary value of the emissions reductions would be outweighed by the reduction in manufacturer industry value. *Id.* Consequently, the Secretary concluded that standards more stringent than those adopted were not economically justified. *Id.* For the determination proposed in this document, DOE has considered potential manufacturer impacts associated with amended energy conservation standards (See section IV.H of this document).

IV. Methodology and Discussion of Related Comments

This section addresses the analyses DOE has performed for this proposed determination with regard to commercial prerinse spray valves. Separate subsections address each component of DOE's analyses. DOE used several analytical tools to estimate the impact of potential energy conservation standards. The first tool is a spreadsheet that calculates the LCC savings and PBP of potential energy conservation standards. The NIA uses a second spreadsheet set that provides shipments projections and calculates NES and NPV of total consumer costs and savings expected to result from potential energy conservation standards. These spreadsheet tools are available on the website: *https://www.regulations.gov/docket/EERE-2019-BT-STD-0034.*

A. Market and Technology Assessment

DOE develops information in the market and technology assessment that provides an overall picture of the market for the products concerned, including the purpose of the products, the industry structure, manufacturers, market characteristics, and technologies used in the products. This activity includes both quantitative and qualitative assessments, based primarily on publicly available information. The subjects addressed in the market and technology assessment for this proposed determination include (1) a determination of the scope and product classes, (2) manufacturers and industry structure, (3) existing efficiency programs, (4) shipments information, (5) market and industry trends, and (6) technologies or design options that could improve the energy efficiency of commercial prerinse spray valves. The key findings of DOE's market assessment are summarized in the following sections. See chapter 3 of the NOPD TSD for further discussion of the market and technology assessment.

1. Scope of Coverage

In this analysis, DOE relied on the definition of commercial prerinse spray valves in 10 CFR 431.262, which defines commercial prerinse spray valve as ''a handheld device that has a release-to-close valve and is suitable for removing food residue from food service items before cleaning them in commercial dishwashing or ware washing equipment.'' Any product meeting the definition of commercial prerinse spray valve is included in DOE's scope of coverage.

In response to the June 2020 RFI, NEEA and Appliance Standards Awareness Project (ASAP) commented that many valves marketed on online retailers' and manufacturers' websites appear to meet DOE's definition of a commercial prerinse spray valve but have flow rates above DOE's limits. (ASAP, No. 5 at p. 1; NEEA, No. 7 at p. 2) ASAP provided website links to products it asserted meet DOE's definition but have flow rates above DOE's energy conservation standard limits and models that are advertised as complying with DOE standards are not included in DOE's compliance database. (ASAP, No. 5 at p. 2–4) ASAP commented that the current definition means that a product does not have to be explicitly marketed as a commercial prerinse spray valve in order to be covered, so long as it is suitable for use in washing dishes. (*Id.* at p. 2)

In the May 20, 2021 CPSV test procedure NOPR, DOE addressed similar comments and proposed to update the definition to codify in the CFR existing guidance on the application of the current definition in 10 CFR 431.262. 86 FR 27298. DOE reiterated that adopting this guidance is not intended to change the scope of valves covered in the CPSV definition, only to codify existing guidance. *Id.*

2. Technology Options

In the June 2020 RFI, DOE identified several technology options that would be expected to improve the efficiency of

commercial prerinse spray valves, as measured by the DOE test procedure. The complete list of technology options identified are as follows:

(1) Addition of flow control insert,
(2) Smaller spray hole area,
(3) Aerators,
(4) Additional valves,
(5) Changing spray hole shape, and
(6) Venturi meter to orifice plate nozzle geometries.[7]

DOE requested comment on the applicability of these technologies to the efficiency and performance characteristics of commercial prerinse spray valves. DOE also requested comment and data on any new technologies that should be considered in its analysis. 85 FR 35383, 35386–35387.

In response to the June 2020 RFI, PMI commented that it is not aware of any significant technological advances that would vastly alter the water and energy savings from the products currently being produced. (PMI, No. 4 at p. 1) CA IOUs commented that pressure compensating aerator (''PCA'') technology represents an opportunity for further efficiency gains from commercial prerinse spray valves and recommended DOE investigate the energy saving potential of these technologies. (CA IOUs, No. 6 at p. 1)

PCAs typically use an O-ring that compresses and relaxes in response to system pressure. When there is no pressure, the O-ring is relaxed and allows the aerator to be fully opened. As the pressure increases, the O-ring is compressed into the aerator opening to partially block water passage. This establishes an inverse relationship between the area of the aerator opening and the water pressure, and can be designed such that the water flow rate is approximately constant with pressure.

CA IOUs commented that because the flow rate of commercial prerinse spray valves varies with pressure, low water pressure can reduce user satisfaction and result in consumers trying to alter their spray valve or replace it with a higher flow-rate spray valve. (*Id.* at p. 1–2) They stated that using a PCA decouples the flow rate of commercial prerinse spray valves from water supply pressure, increasing consumer satisfaction. (*Id.* at p. 3) CA IOUs commented that PCAs became widely adopted around 2010 and were not previously considered by DOE in the context of a CPSV rulemaking. They urged DOE to consider PCAs as a technology option in this rulemaking. (*Id.* at p. 3)

An initial review of the technology indicates that PCAs represent an opportunity to increase consumer satisfaction at low water pressure, as PCAs would ensure that consumers get their desired spray force across the entire range of in-field water pressures. However, DOE does not initially find PCAs to represent a technology option that would improve the water efficiency of commercial prerinse spray valves as measured by DOE's test procedure. DOE's test procedure measures flow rate and spray force at a singular, representative water pressure. Adding a PCA would not change the flow rate or spray force at DOE's test pressure.[8]

In summary, for this analysis, DOE considers the technology options shown in Table IV.1. Detailed descriptions of these technology options can be found in chapter 3 of the NOPD TSD.

TABLE IV.1—COMMERCIAL PRERINSE SPRAY VALVES TECHNOLOGY OPTIONS

Technology Option
Addition of Flow Control Insert
Smaller Spray Hole Area
Aerators
Additional Valves
Changing Spray Hole Shape
Venturi Meter to Orifice Plate Nozzle Geometries

DOE seeks comment on its determination that PCAs would not change the flow rate or spray force at DOE's test pressure.

3. Screening Analysis

DOE uses the following five screening criteria to determine which technology options are suitable for further consideration in an energy conservation standards rulemaking:

(1) *Technological feasibility.* Technologies that are not incorporated in commercial products or in working prototypes will not be considered further.

(2) *Practicability to manufacture, install, and service.* If it is determined that mass production and reliable installation and servicing of a technology in commercial products could not be achieved on the scale necessary to serve the relevant market at the time of the projected compliance date of the standard, then that technology will not be considered further.

(3) *Impacts on product utility or product availability.* If it is determined that a technology would have significant adverse impact on the utility of the product to significant subgroups of consumers or would result in the unavailability of any covered product type with performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as products generally available in the United States at the time, it will not be considered further.

(4) *Adverse impacts on health or safety.* If it is determined that a technology would have significant adverse impacts on health or safety, it will not be considered further.

(5) *Unique-Pathway Proprietary Technologies.* If a design option utilizes proprietary technology that represents a unique pathway to achieving a given efficiency level, that technology will not be considered further due to the potential for monopolistic concerns.

Sections 6(c)(3) and 7(b) of appendix A to 10 CFR part 430, subpart C.

In summary, if DOE determines that a technology, or a combination of technologies, fails to meet one or more of the listed five criteria, it will be excluded from further consideration in the engineering analysis.

a. Screened-Out Technologies

In the June 2020 RFI, DOE presented the screened-out technology options from the January 2016 Final Rule and sought comment regarding whether these technology options would continue to be screened out. 85 FR 35383, 35387. In response to the June 2020 RFI, DOE did not receive any comments suggesting these technologies should no longer be screened out. DOE's review of the market also suggests that these technologies are not suitable for further consideration, as discussed in chapter 4 of the TSD. Therefore, for this analysis, DOE has maintained the January 2016 Final Rule conclusions and has screened out the same technology options as presented in Table IV.2.

[7] A venturi meter is a nozzle where the fluid accelerates through a converging cone of 15–20 degrees. An orifice plate is a flat plate with a circular hole drilled in it.

[8] In the CA IOUs comment, Figure 2 also shows that at the DOE test procedure test pressure (60 pounds per square inch, or psi), the flow rate continues to be at 1.28 gpm for fixed orifice, PCA high performance, and PCA basic. (CA IOUs, No. 6 at p. 3)

TABLE IV.2—SCREENED-OUT TECHNOLOGY OPTIONS

Screened technology option	Screening criteria (X = basis for screening out)				
	Technological feasibility	Practicability to manufacture, install, and service	Adverse impact on product utility	Adverse impacts on health and safety	Unique-pathway proprietary technologies
Addition of Flow Control Insert	X				
Aerators	X				
Additional Valves	X				

b. Remaining Technologies

After reviewing each technology, DOE did not screen out the following technology options and considers them as design options in the engineering analysis:

(1) Smaller spray hole area.

(2) Changing spray hole shape, and

(3) Venturi meter to orifice plate nozzle geometries.

DOE determined that these technology options are technologically feasible because they are being used or have previously been used in commercially available products or working prototypes. Also these remaining technology options meet the other screening criteria (*i.e.,* practicable to manufacture, install, and service and do not result in adverse impacts on consumer utility, product availability, health, or safety). For additional details, see chapter 4 of the NOPD TSD.

4. Product Classes

In general, when evaluating and establishing energy conservation standards, DOE divides the covered product into classes by (1) the type of energy used, (2) the capacity of the product, or (3) any other performance-related feature that affects energy efficiency and justifies different standard levels, considering factors such as consumer utility. (42 U.S.C. 6295(q))

For commercial prerinse spray valves, the current energy conservation standards specified in 10 CFR 431.266 are based on three product classes determined according to spray force, which is a performance-related feature that provides utility to the consumer. ''Spray force'' is defined as the amount of force exerted onto the spray disc, measured in ounce-force (''ozf''). 10 CFR 431.262 Table IV.3 lists the current three product classes for commercial prerinse spray valves.

TABLE IV.3—CURRENT COMMERCIAL PRERINSE SPRAY VALVE PRODUCT CLASSES

Product class	Spray force in ounce-force, ozf
Product Class 1	≤5.0 ozf.
Product Class 2	>5.0 ozf and ≤8.0 ozf.
Product Class 3	>8.0 ozf.

These product classes were based on previous market research that identified three distinct end-user applications requiring differing amounts of spray force: (1) Cleaning delicate glassware and removing loose food particles from dishware (which require the least amount of spray force), (2) cleaning wet food, and (3) cleaning baked-on foods (which requires the greatest amount of spray force). 81 FR 4748, 4758–4759.

In the June 2020 RFI, DOE sought feedback regarding whether there had been any changes to the end-user applications of each product classes and if any of the existing product classes should be merged or separated. Further, DOE requested any data on additional performance-related features, in addition to spray force, that provide unique consumer utility that would justify additional product classes. 85 FR 35386.

In response, PMI commented that it was not aware of any data or market feedback that would warrant changes to the end-user applications of each product class or changes to the current product class structure. (PMI, No. 4 at p. 4) Further, it was not aware of any data or market feedback that would warrant additional product classes. (*Id.*) DOE did not receive any comments or data suggesting that changes to the existing product class structure were needed and therefore maintained the existing product class structure in this analysis.

5. Market Assessment

In the June 2020 RFI, DOE stated that preliminary research indicated some of the ''shower-type'' basic models since the January 2016 Final Rule had been redesigned to have flow rates and spray force in product class 2 (≤5.0 ozf and ≤8.0 ozf), with few commercial prerinse spray valves remaining in product class 3 (≤8.0 ozf). 85 FR 35383, 35386.

In response to the RFI, PMI commented that the total number of commercial prerinse spray valves that meet the Environmental Protection Agency's (''EPA's'') WaterSense standards continues to grow. (PMI, No. 4 at p. 3) It further commented that industry needs more time to evaluate the impact the current DOE standards have had on the market. (*Id.* at p. 1) Specifically, PMI stated that the relatively recent compliance date has not allowed manufacturers time to recoup their investments associated with the most recent redesigns, and some manufacturers and distributors need time to sell-through the existing products they have in stock. (*Id.* at p. 4) PMI commented in support of a no-new-standards determination due to any improvement in efficiency being negligible when compared to the current standard's improvement from the previous 1.6 gpm flow rate limitation. (*Id.* at p. 5)

DOE notes that EPA's WaterSense program was sunset in 2019, with the implementation of the energy conservation standard prescribed in the January 2016 Final Rule, after participants expressed an ''overwhelming preference for canceling the WaterSense specification, indicating limited potential for further efficiency.'' [9]

NEEA reiterated DOE's observation that significantly fewer spray valves are currently manufactured in product class 3 and expressed concern that the absence of high flow-rate valves could drive certain manufacturers to select out of scope products with flow rates above energy conservation standards. (NEEA, No. 7 at p. 3) NEEA recommended DOE investigate any potential product class switching and any switching to equipment that may be out of scope. (*Id.*

[9] EPA's notification of sunset of the WaterSense Specification for commercial prerinse spray valves can be found at the following link: *https://www.epa.gov/watersense/commercial-pre-rinse-spray-valves-specification-and-certification.*

at p. 4) DOE modeled potential product class switching and any switching to out-of-scope equipment as discussed in section IV.F of this document.

For this proposed determination, DOE initially relied on government databases, retail listings, and industry publications (*e.g.,* manufacturer catalogs) to assess the overall state of the industry. DOE used this market analysis to generate the shipments analysis, discussed in section IV.F of this document. DOE maintained the nearest neighbor switching assumptions from the previous rulemaking, as discussed in section IV.F of this document.

B. Engineering Analysis

The purpose of the engineering analysis is to establish the relationship between the efficiency and cost of commercial prerinse spray valves. There are two elements to consider in the engineering analysis: The selection of efficiency levels to analyze (*i.e.,* the ''efficiency analysis'') and the determination of product cost at each efficiency level (*i.e.,* the ''cost analysis''). In determining the performance of higher-efficiency products, DOE considers technologies and design option combinations not eliminated by the screening analysis. For each product class, DOE estimates the baseline cost, as well as the incremental cost for the product at efficiency levels above the baseline. The output of the engineering analysis is a set of cost-efficiency ''curves'' that are used in downstream analyses (*i.e.,* the LCC and PBP analyses and the NIA).

NEEA recommended DOE set the efficiency standards to the maximum available flow rate currently on the market in each product class. (NEEA, No. 7 at p. 4) As described in the following analyses, DOE evaluated the savings potential of higher efficiency standards.

1. Efficiency Analysis

DOE typically uses one of two approaches to develop energy efficiency levels for the engineering analysis: (1) Relying on observed efficiency levels in the market (*i.e.,* the efficiency-level approach), or (2) determining the incremental efficiency improvements associated with incorporating specific design options to a baseline model (*i.e.,* the design-option approach). Using the efficiency-level approach, the efficiency levels established for the analysis are determined based on the market distribution of existing products (in other words, based on the range of efficiencies and efficiency-level ''clusters'' that already exist on the market). Using the design option approach, the efficiency levels established for the analysis are determined through detailed engineering calculations and/or computer simulations of the efficiency improvements from implementing specific design options that have been identified in the technology assessment. DOE may also rely on a combination of these two approaches. For example, the efficiency-level approach (based on actual products on the market) may be extended using the design option approach to interpolate to define ''gap fill'' levels (to bridge large gaps between other identified efficiency levels) and/or to extrapolate to the ''max-tech'' level (particularly in cases where the ''max tech'' level exceeds the maximum efficiency level currently available on the market).

In this proposed determination, similar to the January 2016 Final Rule, DOE is adopting a design-option approach. The analysis is performed in terms of incremental increases in efficiency (decreases in flow rate) due to implementation of selected design options.

a. Baseline Efficiency Levels

For each product class, DOE generally selects a baseline model as a reference point for each class, and measures changes resulting from potential energy conservation standards against the baseline. The baseline model in each product class represents the characteristics of a product typical of that class (*e.g.,* capacity, physical size). Generally, a baseline model is one that just meets current energy conservation standards, or, if no standards are in place, the baseline is typically the most common or least efficient unit on the market.

The current minimum energy conservation standards represent the baseline efficiency levels for each product class. The current standards for each product class are based on flow rate in gpm. DOE requested comment in the June 2020 RFI regarding whether using the current energy conservation standards for commercial prerinse spray valves are an appropriate baseline efficiency level. 85 FR 35383, 35388. DOE did not receive any comments on this issue. Therefore, DOE is using the current energy conservations standards as the baseline efficiency level in this analysis.

b. Higher Efficiency Levels

As part of DOE's analysis, the maximum available efficiency level is the highest efficiency (*i.e.,* lowest water use in a given product class) unit currently available on the market. DOE also defines a ''max-tech'' efficiency level to represent the maximum possible efficiency for a given product.

In the June 2020 RFI, DOE presented the max-tech efficiency level from the January 2016 Final Rule and requested comment as to whether these max-tech options were appropriate. 85 FR 35383, 35388. DOE did not receive any comment suggesting they were not. Based on a review of recent manufacturer catalogs, DOE identified a new max-tech commercial prerinse spray valve for product class 1, which has a flow rate of 0.45 gpm as compared to the flow rate of 0.62 gpm presented in the June 2020 RFI.[10] As such, DOE has used the max-tech efficiency level flow rates presented in Table IV.4 in this analysis.

TABLE IV.4—MAXIMUM EFFICIENCY LEVELS CURRENTLY AVAILABLE

Product class	Flow rate (gpm)
Product Class 1	0.45
Product Class 2	0.73
Product Class 3	1.13

DOE seeks comment on its new max-tech efficiency level for product class 1.

In the January 2016 Final Rule, DOE presented a theoretical linear relationship between CPSV flow rate and spray force, derived from both Bernoulli's principle of incompressible flow and the concept of conservation of mass in a fluid system. Further, DOE had verified this linear relationship through market testing of available products and close matching between the theoretical relationship and the flow rates and spray forces of available products. 81 FR 4748, 4762. The relationship between flow rate and spray force is given below:

[10] The new max-tech model utilizes smaller spray hole area to further reduce flow rate. This is not a new technology option; rather, it is further utilizing a technology option considered during the January 2016 Final Rule.

$$[\text{Flow Rate (gpm)}] = 0.15 * [\text{Spray Force (ozf)}]$$

Equation 1[11]

In the June 2020 RFI, DOE requested comment regarding whether this equation was still applicable. PMI commented that this relationship was still accurate and that it supports using the equation for determining flow rate or spray force. (PMI, No. 4 at p. 5) DOE did not receive any other comments on the equation, and therefore continues to apply this equation in the engineering analysis.

2. Cost Analysis

The cost analysis portion of the engineering analysis is conducted using one or a combination of cost approaches. The selection of cost approach depends on a suite of factors, including the availability and reliability of public information, characteristics of the regulated product, and the availability and timeliness of purchasing the product on the market. The cost approaches are summarized as follows:

- *Physical teardowns:* Under this approach, DOE physically dismantles a commercially available product, component-by-component, to develop a detailed bill of materials (''BOM'') for the product.
- *Catalog teardowns:* In lieu of physically deconstructing a product, DOE identifies each component using parts diagrams (available from manufacturer websites or appliance repair websites, for example) to develop the BOM for the product.
- *Price surveys:* If neither a physical nor catalog teardown is feasible (for example, for tightly integrated products such as fluorescent lamps, which are infeasible to disassemble and for which parts diagrams are unavailable) or cost-prohibitive and otherwise impractical (*e.g.,* large commercial boilers), DOE conducts price surveys using publicly available pricing data published on major online retailer websites and/or by soliciting prices from distributors and other commercial channels.

In the January 2016 Final Rule, DOE developed cost-efficiency curves by creating a BOM using physical and catalog teardowns of commercial prerinse spray valves and concluded that manufacturing production cost was unaffected by efficiency level, both within product classes and across product classes. 81 FR 4748, 4765. In the June 2020 RFI, DOE requested comment as to whether this conclusion had changed since DOE's previous analysis. 85 FR 35383, 35389. DOE did not receive any comment suggesting this conclusion has changed.

As discussed in section IV.A.2 of this document, DOE did not observe any new technology options from the January 2016 Final Rule. Therefore, for this proposed determination, DOE updated the cost analysis from the January 2016 Final Rule to be representative of the market in 2020. This included updating the material prices of each component of the previously torn down commercial prerinse spray valves and updating the labor, depreciation, utilities, maintenance, tax, and insurance costs. DOE did not include any commercial prerinse spray valves that have exited the market or had their design modified since they were torn down. The resulting BOM provides the basis for the manufacturer production cost (''MPC'') estimates.

These updated costs reaffirm that there are differences in manufacturing costs between units from different manufacturers. However, none of the differences were directly related to the efficiency of a commercial prerinse spray valve. Rather, the differences were primarily due to differences in the type and amount of material used (*e.g.,* plastic versus brass or stainless steel spray nozzles). As such, the resulting cost analysis provided the basis for the MPC estimates. However, DOE has initially concluded that MPC is unaffected by efficiency level, similar to the conclusion from the January 2016 Final Rule; *i.e.,* MPC remains constant across all product classes. 81 FR 4748, 4765.

DOE seeks comment and data regarding any changes in MPC that would not be accounted for by updating the cost analysis of the previously conducted product teardowns. Specifically, DOE seeks any data that would contradict its determination of no incremental cost associated with improvements in efficiency of commercial prerinse spray valves.

a. Cost-Efficiency Results

The results of the engineering analysis are reported as cost-efficiency data and indicate that manufacturing production costs are unaffected by efficiency level within a product class and across product classes. Therefore, DOE assumed the final MPC as the average MPC of all commercial prerinse spray valves. The summary of the cost efficiency relationships for product class 1, 2, and 3 are presented in Table IV.5, Table IV.6, and Table IV.7, respectively. See TSD chapter 5 for additional detail on the engineering analysis and complete cost-efficiency results.

TABLE IV.5—COST EFFICIENCY RELATIONSHIP FOR PRODUCT CLASS 1

[Spray force ≤5.0 ozf]

Efficiency level	Efficiency level description	Flow rate (gpm)	Manufacturer production cost (*2020$*)	Incremental cost over baseline ($)
Baseline	Current Federal standard	1.00	$26.91	$0.00
Level 1	15% improvement over Federal standard	0.85	26.91	0.00
Level 2	25% improvement over Federal standard	0.75	26.91	0.00
Level 3	Maximum technologically-feasible (max-tech)	0.45	26.91	0.00

[11] See chapter 5 of the NOPD TSD.

TABLE IV.6—COST EFFICIENCY RELATIONSHIP FOR PRODUCT CLASS 2

[Spray force >5.0 ozf and ≤8.0 ozf]

Efficiency level	Efficiency level description	Flow rate (gpm)	Manufacturer production cost (*2020$*)	Incremental cost over Baseline ($)
Baseline	Current Federal standard	1.20	$26.91	$0.00
Level 1	15% improvement over Federal standard	1.02	26.91	0.00
Level 2	25% improvement over Federal standard	0.90	26.91	0.00
Level 3	Maximum technologically-feasible (max-tech)	0.73	26.91	0.00

TABLE IV.7—COST EFFICIENCY RELATIONSHIP FOR PRODUCT CLASS 3

[Spray force >8.0 ozf]

Efficiency level	Efficiency level description	Flow rate (gpm)	Manufacturer production cost (*2020$*)	Incremental cost over baseline ($)
Baseline	Current Federal standard	1.28	26.91	0.00
Level 1	Maximum technologically-feasible (max-tech)	1.13	26.91	0.00

See chapter 5 of the NOPD TSD for additional detail on the engineering analysis and complete cost-efficiency results.

C. Markups Analysis

To account for manufacturers' non-production costs and profit margin, DOE applies a non-production cost multiplier (the manufacturer markup) to the MPC. The resulting manufacturer selling price (''MSP'') is the price at which the manufacturer distributes a unit into commerce. DOE developed an average manufacturer markup by examining the annual Securities and Exchange Commission (''SEC'') 10–K reports filed by publicly-traded manufacturers primarily engaged in appliance manufacturing and whose combined product range includes commercial prerinse spray valves. The manufacturer mark-up is discussed in more detail in section IV.H.2.d of this document.

The markups analysis also develops appropriate markups (*e.g.,* retailer markups, distributor markups, contractor markups) in the distribution chain and sales taxes to convert the MSP estimates derived in the engineering analysis to consumer prices, which are then used in the LCC and PBP analysis and in the manufacturer impact analysis (''MIA''). At each step in the distribution channel, companies mark up the price of the product to cover business costs and profit margin.

DOE requested comment in the June 2020 RFI regarding markups per distribution channel as well as the portion of equipment sold via each distribution channel. 85 FR 35383, 35390. DOE did not receive any comments related to markups per distribution channel.

For commercial prerinse spray valves, the main parties in the distribution chain are manufacturers, distributors, retailers, and service company. Each party in the distribution chain sells to the final consumer. Table IV.8 provides the portion of equipment passing through different distribution channels.

TABLE IV.8—COMMERCIAL PRERINSE SPRAY VALVE DISTRIBUTION CHANNELS

Channel	Pathway	Percentage through channel
A	Manufacturer → Final Consumer (Direct Sales)	17
B	Manufacturer → Authorized Distributor → Final Consumer	33
C	Manufacturer → Retailer → Final Consumer	17
D	Manufacturer → Service Company → Final Consumer	33

DOE developed baseline markups for each entity in the distribution chain. Baseline markups are multipliers that convert the MSP of equipment at the baseline efficiency level to consumer purchase price. Incremental markups are multipliers that convert the incremental increase in MSP for a product at each higher efficiency level (compared to the MSP at the baseline efficiency level) to the corresponding purchase price. In the analysis for this proposed determination, DOE used only baseline markups, as the engineering analysis indicated that there is no price increase with improvements in efficiency for commercial prerinse spray valves.

DOE relied on annual reports and SEC 10–K reports from public companies in the different distribution channels to estimate average baseline markups. Table IV.9 provides the markups for each distribution channel.

TABLE IV.9—COMMERCIAL PRERINSE SPRAY VALVE BASELINE CHANNELS

Channel	Pathway	Baseline markup
A	Manufacturer → Final Consumer (Direct Sales)	1.72
B	Manufacturer → Authorized Distributor → Final Consumer	1.72

TABLE IV.9—COMMERCIAL PRERINSE SPRAY VALVE BASELINE CHANNELS—Continued

Channel	Pathway	Baseline markup
C	Manufacturer → Retailer → Final Consumer	1.52
D	Manufacturer → Service Company → Final Consumer	1.87

DOE seeks comment on the markup channels, the percentage through each channel, and the baseline markup of commercial prerinse spray valves.

Chapter 6 of the NOPD TSD provides details on DOE's development of markups for commercial prerinse spray valves.

D. Energy and Water Use Analysis

The purpose of the energy use analysis is to determine the annual energy consumption of commercial prerinse spray valves at different efficiencies in representative U.S. commercial buildings, and to assess the energy savings potential of increased CPSV efficiency. The energy use analysis estimates the range of energy use of commercial prerinse spray valves in the field (*i.e.,* as they are actually used by consumers). The energy use analysis provides the basis for other analyses DOE performed, particularly assessments of the energy savings and the savings in consumer operating costs that could result from adoption of amended or new standards. The energy use analysis for this NOPD is the same process as DOE used in the January 2016 Final Rule. 81 FR 4748, 4765–4766.

As discussed in section IV.B.1, DOE developed flow rates for each efficiency level analyzed in the engineering analysis. DOE calculated the energy and water use by determining the representative daily operating time of the product by major building types that contain commercial kitchens found in the 2012 Commercial Building Energy Consumption Survey (''CBECS'').[12] The daily CPSV operating time was annualized based on operating schedules for each building type. In the June 2020 RFI, DOE presented CPSV annual operating hours and requested comment on those hours. 85 FR 35383, 35390. DOE did not receive any comments related to operating hours.

Water use for each equipment class was determined by multiplying the annual operating time by the flow rate and operating pressure of 60 pounds per square inch (''psi'') for each efficiency level. DOE requested comment in the June 2020 RFI requesting feedback related to the typical operating pressure of the water typically supplied to commercial prerinse spray valves and DOE's assumption of 60 psi. 85 FR 35383, 35390. PMI concurred with this operating pressure and stated that 60 ± 2 psi is representative of the average U.S. water pressure in commercial kitchens. (PMI, No. 4 at pp. 4–5) DOE did not receive any further comments and therefore maintained the 60 psi operating pressure for each efficiency level.

Energy use was calculated by multiplying the annual water use in gallons by the energy required to heat each gallon of water to an end-use temperature of 108 °F. DOE requested comment in the June 2020 RFI related to the end-use water temperature of the water leaving the prerinse spray valves and any related supporting data. 85 FR 35383, 35390. PMI stated that it was not aware of any data or market information that suggested a different temperature than the 108 °F end-use temperature. (PMI, No. 4 at p. 5) Cold water supply temperatures used in this calculation were derived for the nine U.S. census regions based on ambient air temperatures, and hot water supply temperature was assumed to be 140 °F based on ASHRAE Standard 12–2020.[13]

DOE seeks comment on the methods to improve DOE's energy-use analysis, as well as any supporting alternate operating hour estimates for operation of commercial prerinse spray valves. DOE seeks comment on water pressure and the end-use temperature.

Chapter 7 of the NOPD TSD provides details on DOE's energy use analysis for commercial prerinse spray valves.

Life-Cycle Cost and Payback Period Analysis4764–4765. For purposes of its analysis, DOE used 2027 as the first year of compliance with any amended standards for commercial prerinse spray valves.

Table IV.10 summarizes the approach and data DOE used to derive inputs to the LCC and PBP calculations. The subsections that follow provide further discussion. Details of the spreadsheet model, and of all the inputs to the LCC and PBP analyses, are contained in chapter 8 of the NOPD TSD and its appendices.

TABLE IV.10—SUMMARY OF INPUTS AND METHODS FOR THE LCC AND PBP ANALYSIS *

Inputs	Source/method
Product Cost	Derived by multiplying MPCs by manufacturer and retailer markups and sales tax, as appropriate.
Installation Costs	Baseline installation cost determined with data from U.S. Department of Labor and U.S. Bureau of Labor Statistics. Assumed no change with efficiency level.
Annual Energy Use	The energy use multiplied by the average hours per year. Average number of hours based on field data. Variability: Based on the 2012 CBECS.
Energy Prices	Electricity: Based on the U.S. Energy Information Administration (''EIA'') Form 861 data for 2020. Variability: Regional energy prices determined for 27 regions.
Energy Price Trends	Based on the *Annual Energy Outlook 2021* (''*AEO2021*'') price projections.
Repair and Maintenance Costs	Assumed no change with efficiency level.
Product Lifetime	Average: 5 years

[12] U.S. Department of Energy-Energy Information Administration. *Commercial Building Energy Consumption Survey.* 2020. Washington, DC. Available at *https://www.eia.gov/consumption/commercial/data/2012/.*

[13] *ASHRAE Standard 12–2020: Minimizing the Risk of Legionellosis Associated with Building Water Systems* (March 2020).

TABLE IV.10—SUMMARY OF INPUTS AND METHODS FOR THE LCC AND PBP ANALYSIS *—Continued

Inputs	Source/method
Discount Rates	Approach involves identifying all possible debt or asset classes that might be used to purchase the considered appliances or might be affected indirectly. Primary data source was the Federal Reserve Board's Survey of Consumer Finances.
Compliance Date	2027.

* References for the data sources mentioned in this table are provided in the sections following the table or in chapter 8 of the NOPD TSD.

1. Product Cost

To calculate consumer product costs, DOE multiplied the MSPs developed in the engineering analysis by the distribution channel markups described in section IV.C (along with sales taxes). As stated earlier in this notice, DOE used baseline markups, but did not apply incremental markups, because the engineering analysis indicated that there is no price increase with improvements in efficiency for commercial prerinse spray valves.

In prior energy conservation standards rulemakings, DOE estimated the total installed costs per unit for product and then assumed that costs remain constant throughout the analysis period. This assumption is conservative because product costs tend to decrease over time. In 2011, DOE published a notice of data availability (''NODA'') titled *Equipment Process Forecasting in Energy Conservation Standards Analysis.* 76 FR 9696 (Feb. 22, 2011). In the NODA, DOE proposed a methodology for determining whether equipment process have trended downward in real terms. The methodology examines so-called price or experimental learning, wherein, with ever-increasing experience with the production of a product, manufacturers are able to reduce their production costs through innovations in technology and process.

Commercial prerinse spray valves are formed metal devices. Neither changes in technology nor process are expected to occur to change the price of the product in this analysis. For this analysis DOE assumed that product costs remain constant over the analysis period. This is consistent with the January 2016 Final Rule. 81 FR 4748, 4767.

2. Installation Cost

Installation cost includes labor, overhead, and any miscellaneous materials and parts needed to install the product. DOE used data from U.S. Department of Labor to estimate the baseline installation cost for commercial prerinse spray valves. Consistent with the January 2016 Final Rule, DOE found no evidence that installation costs would be affected by increased efficiency levels. 81 FR 4748, 4767.

3. Annual Energy Consumption

For each sampled CPSV user, DOE determined the energy consumption for a commercial prerinse spray valve at different efficiency levels using the approach described previously in section IV.D of this document.

4. Energy Prices

DOE derived average annual commercial electricity prices for 27 geographic regions using data from the U.S. Energy Information Administration (''EIA'') Form EIA–861 database (based on ''Annual Electric Power Industry Report'').[14] The NOPD analysis used the data for 2020 DOE derived average natural gas prices using data from EIA's natural gas prices.[15]

To estimate energy prices in future years, DOE multiplied the average regional energy prices by a projection of annual change in national-average commercial energy price in *AEO*2021.[16] *AEO2021* has an end year of 2050. To estimate price trends after 2050, DOE used the average annual rate of change in prices from 2040 through 2050.

5. Water and Wastewater Prices

DOE obtained data on water and wastewater prices from the 2019 American Water Works Association (''AWWA'') surveys for this analysis.[17] For each state and the District of Columbia, DOE combined all individual utility observations within the state to develop one value for water and wastewater service. Because water and wastewater charges are frequently tied to the same metered commodity values, DOE combined the prices for water and wastewater into one total dollar per thousand gallons figure. This figure is referred to as the combined water price. DOE used the consumer price index (''CPI'') data for water related consumption (1974–2019) in developing a real growth rate for combined water price forecasts. DOE requested comment in the June 2020 RFI whether a different water price dataset should be considered. 85 FR 35383, 35391. DOE received no comments related to water price datasets. Chapter 8 of the NOPD TSD provides more detail about DOE's approach to developing water and wastewater prices.

6. Maintenance and Repair Costs

Repair costs are associated with repairing or replacing product components that have failed in an appliance; maintenance costs are associated with maintaining the operation of the product. Typically, small incremental increases in product efficiency produce no, or only minor, changes in repair and maintenance costs compared to baseline efficiency products. DOE requested comment in the June 2020 RFI on the assumption of zero maintenance and repair costs upon failure. DOE assumed that consumers would replace the commercial prerinse spray valve upon failure rather than repairing the product. 85 FR 35383, 35391. DOE also requested comment if these changes would differ per efficiency level. *Id.* DOE received no comments related to maintenance nor repair costs. For this NOPD, DOE modeled commercial prerinse spray valves as not being repaired, and no maintenance costs. Additionally, DOE modeled no changes in maintenance or repair costs between different efficiency levels.

7. Product Lifetime

For commercial prerinse spray valves, DOE used lifetime estimates from manufacturer datasheets and other published data sources. DOE requested comment in the June 2020 RFI regarding lifetime and lifetime distributions. In the June 2020 RFI, DOE restated the values from the January 2016 Final Rule, an average lifetime of 5 years and maximum of 10 years. 85 FR 35383, 35391. DOE did not receive any

[14] Available at *www.eia.doe.gov/cneaf/electricity/page/eia861.html.*

[15] Available at *https://www.eia.gov/dnav/ng/ng_pri_sum_a_EPG0_PCS_DMcf_m.htm.*

[16] U.S. Department of Energy—Energy Information Administration. *Annual Energy Outlook 2021 with Projections to 2050.* 2021. Washington, DC. (AEO2021). Available at *www.eia.gov/outlooks/aeo/.*

[17] Available at *https://www.awwa.org/Store/2019-Water-and-Wastewater-Rate-Survey—Digital-Set/ProductDetail/79004009.*

comments related to lifetime of commercial prerinse spray valves. DOE developed a Weibull distribution with an average lifetime of 5 years and a maximum lifetime of 10 years. The use of a lifetime distribution for this analysis helps account for the variability in product lifetimes.

8. Discount Rates

In the calculation of LCC, DOE applies discount rates appropriate to CPSV users to estimate the present value of future operating costs. DOE estimated a distribution of commercial discount rates for commercial prerinse spray valves based on consumer financing costs and the opportunity cost of consumer funds.

DOE applies weighted average discount rates calculated from consumer debt and asset data, rather than marginal or implicit discount rates.[18] DOE notes that the LCC does not analyze the appliance purchase decision, so the implicit discount rate is not relevant in this model. The LCC estimates NPV over the lifetime of the product, so the appropriate discount rate will reflect the general opportunity cost of commercial consumer funds, taking this time scale into account. Given the long-time horizon modeled in the LCC, the application of a marginal interest rate associated with an initial source of funds is inaccurate. Regardless of the method of purchase, consumers are expected to continue to rebalance their debt and asset holdings over the LCC analysis period, based on the restrictions consumers face in their debt payment requirements and the relative size of the interest rates available on debts and assets. DOE estimates the aggregate impact of this rebalancing using the historical distribution of debts and assets.

To establish commercial discount rates for the LCC analysis, DOE identified all relevant commercial consumer debt or asset classes in order to approximate a commercial consumer's opportunity cost of funds related to appliance energy cost savings. It estimated the average percentage shares of the various types of debt and equity by commercial consumer building type using data from Damodaran Online[19] for 1998–2019. Using Damodaran Online and the Federal Reserve, DOE developed a distribution of rates for each type of debt and asset by building type to represent the rates that may apply in the year in which amended standards would take effect. DOE assigned each sample building a specific discount rate drawn from one of the distributions. The average rate across all types of commercial consumer debt and equity, weighted by the shares of each type, given business size, is 7.0 percent. See chapter 8 of the NOPD TSD for further details on the development of consumer discount rates.

9. Energy Efficiency Distribution in the No-New-Standards Case

To accurately estimate the share of consumers that would be affected by a potential energy conservation standard at a particular efficiency level, DOE's LCC analysis considered the projected distribution (market shares) of product efficiencies under the no-new-standards case (*i.e.,* the case without amended or new energy conservation standards).

To estimate the energy efficiency distribution of commercial prerinse spray valves for 2027 (the first year of the analysis period), DOE conducted general internet searches and examined manufacturer literature to understand the characteristics of the spray values currently offered on the market. DOE assumed that the no-new-standards case percentages in 2027 would stay the same through the analysis period. The estimated market shares by product class for the no-new-standards case for commercial prerinse spray valves are shown in Table IV.11. The estimated market shares within each product class for the no-new-standards case for commercial prerinse spray valves are shown in Table IV.12. See chapter 8 of the NOPD TSD for further information on the derivation of the efficiency distributions.

TABLE IV.11—PRODUCT CLASS DISTRIBUTION IN NO-NEW-STANDARDS CASE

Product class	Portion of shipments (% of shipments)
1	10
2	70
3	20

TABLE IV.12—EFFICIENCY LEVEL DISTRIBUTION WITHIN EACH PRODUCT CLASS IN NO-NEW-STANDARDS CASE

Efficiency level	Product class 1 (% of shipments)	Product class 2 (% of shipments)	Product class 3 (% of shipments)
0	3.1	74.2	86.0
1	—	24.2	14.0
2	87.5	.....	.....
3	9.4	1.5	.....

10. Payback Period Analysis

The PBP is the amount of time it takes the consumer to recover the additional installed cost of more-efficient products, compared to baseline products, through energy cost savings. The PBP is expressed in years. The PBP that exceeds the life of the product means that the increased total installed cost is not recovered in reduced operating expenses.

The inputs to the PBP calculation for each efficiency level are the change in total installed cost of the product and the change in the first-year annual operating expenditures relative to the baseline. The PBP calculation uses the same inputs as the LCC analysis, except that discount rates are not needed.

E. Shipments Analysis

DOE uses projections of annual product shipments to calculate the national impacts of potential amended or new energy conservation standards on energy use, NPV, and future manufacturer cash flows.[20] The shipments model takes an accounting approach in tracking market shares of each product class and the vintage of

[18] The implicit discount rate is inferred from a consumer purchase decision between two otherwise identical goods with different first cost and operating cost. It is the interest rate that equates the increment of first cost to the difference in NPV of lifetime operating cost, incorporating the influence of several factors: transaction costs, risk premiums and response to uncertainty, time preferences, and interest rates at which a consumer is able to borrow or lend.

[19] Damodaran Online. Available at *http://pages.stern.nyu.edu/~adamodar/* (accessed April 2020).

[20] DOE uses data on manufacturer shipments as a proxy for national sales, as aggregate data on sales are lacking. In general, one would expect a close correspondence between shipments and sales.

units in the stock. Stock accounting uses product shipments as inputs to estimate the age distribution of in-service product stocks for all years. The age distribution of in-service product stocks is a key input to calculations of both the NES and NPV, because operating costs for any year depend on the number of commercial prerinse spray valves in operation during that year.

Historical CPSV shipment data come from industry reports as well as DOE's Compliance Certification Management System.[21] DOE used the commercial floorspace growth rate to make projections through year 2056. PMI commented that at least 20,000 restaurants closed in 2020 as a result of the COVID–19 pandemic. (PMI, No. 4 at pp. 3–4) DOE modeled flat growth in 2020 through 2022 for commercial prerinse spray valves. DOE assumes that growth will increase by the time the analysis period starts in 2027.

Previous research by the Environmental Protection Agency (''EPA'') identified low spray force as one of the primary drivers of user dissatisfaction for some application of commercial prerinse spray valves.[22] The relationship between consumer satisfaction and spray force for commercial prerinse spray valves makes it possible that consumers may opt to switch product classes if they are unsatisfied with the spray force available to them in their current product class. In some cases, consumers may opt to switch to a commercial prerinse spray valve that consumes more water and energy than their current product.

If the current choices of product under the current regulations correspond to the consumers' optimal product, it is probable that some consumers would switch from product class 1 to product class 2 or from product class 2 to product class 3 in response to amended standards in order to maintain their satisfaction with the product. In more extreme cases, consumers may also opt to exit the CPSV market and purchase a different type of product (*e.g.,* a faucet) with a higher flow rate. The economics resulting from product-class and product-type switching may result in lower optimal efficiency levels and reduced estimates of water and energy savings, as compared to the case without class switching.

In the January 2016 Final Rule, DOE acknowledged both the possibility that consumers would switch between product classes and the possibility that a subset of consumers would exit the CPSV market and purchase higher flow-rate products (*e.g.,* faucets). 81 FR 4748, 4769. DOE previously implemented a nearest neighbor switching mechanism and a product switch scenario in the shipments model to estimate such consumer choices.

In the June 2020 RFI, DOE requested comment and information on whether product class switching occurred as a result of the previous amended rule as well as any potential switching as the result of a new amended rule. 85 FR 35883, 35392. NEEA recommended DOE examine potential product-class switching in the product class 3 CPSV market. (NEEA, No. 7 at pp. 1–2) In the shipment model in this analysis, DOE developed a method for modeling product class switching where consumers opted for the nearest neighbor and the possibility of some consumers exiting the CPSV market for higher flow-rate products, similar to the previous rulemaking.

1. Nearest Neighbor Switch Scenario

The first scenario can be characterized as a ''nearest neighbor'' approach, in that consumers would choose the product with the flow rate that is closest to their current product flow rate, even if it has a higher spray force (thus product class switching). Under the nearest neighbor scenario, DOE assumed 100 percent of consumers would choose the closest flow rate. Table IV.13 lists the flow rate for the potential efficiency levels evaluated in this NOPD, which are the consumer's potential options for product switching.

TABLE IV.13—COMMERCIAL PRERINSE SPRAY VALVE FLOW RATES

Efficiency level	Product class 1	Product class 2	Product class 3
	Flow rate (gpm)	Flow rate (gpm)	Flow rate (gpm)
Baseline	1.00	1.20	1.28
Level 1	* 0.85	1.02	1.13
Level 2	0.75	* 0.90	.....
Level 3	0.45	0.73	.....

* Market data do not indicate currently available product that meet this efficiency level.

This scenario was included within the Reference case when DOE analyzed any potential amended standards, similar to the January 2016 Final Rule. 81 FR 4748, 4769. A detailed discussion of DOE's method to model product class switching is contained in chapter 9 of the TSD.

DOE seeks comment on the product-class switching methodology used in this analysis, including any logic consumers may employ when switching as well as the portion of consumers that may switch.

2. Product Switch Scenario

In the January 2016 Final Rule, DOE include an alternate analysis (Trial Standard Level 4a) where consumers of product class 3 might opt for other products such as a faucet. 81 FR 4748, 4779. The Federal standard for that product has a flow rate of 2.2 gpm. 10 CFR 430.32(o)

In response to the June 2020 RFI, NEEA requested DOE examine potential switching to products above DOE standards. (NEEA, No. 7 at pp. 1–3)

In this NOPD, DOE also included a sensitivity analysis (known as a product switch scenario) in which some consumers exit the CPSV market and instead use other products like faucets, with greater flow rates than applicable to commercial prerinse spray valves. In this sensitivity analysis, a subset of consumers currently using the highest efficiency level of product class 3 (*e.g.,* consumers currently purchasing valves at EL0 of product class 3) would exit the CPSV market and instead use faucets with a flow rate of 2.2 gpm.

[21] Available at *https://www.regulations.doe.gov/ccms.*

[22] EPA WaterSense, *Prerinse Spray Valves Field Study Report,* as 24–25 (Mar. 31, 2011) (Available at *https://www.epa.gov/sites/production/files/2017-02/documents/ws-background-prsv-field-study-report.pdf*).

As noted in section IV.A.5, since the January 2016 Final Rule, some of the high flow rates (and correspondingly high spray force) units identified during the last rulemaking have been redesigned as product class 2 commercial prerinse spray valves, with lower spray forces. As a result, few units are currently available in product class 3. The lack of units available in product class 3 makes it more likely that customers seeking the product utility associated with a high spray force unit would not be satisfied with their commercial prerinse spray valve if more efficient standards are considered in product class 3. Therefore, the likelihood of customers opting for alternative products in response to amended standards is more likely during this rulemaking than it was during the January 2016 Final Rule.

A detailed discussion of DOE's method to model this sensitivity analysis is contained in chapter 9 of the TSD.

DOE seeks comment on the approach used to analyze the possibility of some consumers exiting the CPSV market for higher flow-rate products, including any logic consumers may employ when switching as well as the portion of consumers that may switch.

F. National Impact Analysis

The NIA assesses the NES and the NPV from a national perspective of total consumer costs and savings that would be expected to result from new or amended standards at specific efficiency levels.[23] (''Consumer'' in this context refers to consumers of the equipment being regulated.) DOE calculates the NES and NPV for the potential standard levels considered based on projections of annual product shipments, along with the annual energy consumption and total installed cost data from the energy use and LCC analyses. For the present analysis, DOE projected the energy savings, operating cost savings, product costs, and NPV of consumer benefits over the lifetime of commercial prerinse spray valves sold from 2027 through 2056.

DOE evaluates the effects of new or amended standards by comparing a case without such standards with standards-case projections. The no-new-standards case characterizes energy use and consumer costs for each CPSV product class in the absence of new or amended energy conservation standards. For this projection, DOE considers historical trends in efficiency and various forces that are likely to affect the mix of efficiencies over time. DOE compares the no-new-standards case with projections characterizing the market for each CPSV product class if DOE adopted new or amended standards at specific energy efficiency levels (*i.e.,* the ELs or standards cases) for that class. For the standards cases, DOE considers how a given standard would likely affect the market shares of commercial prerinse spray valves with lower flow rates than the standard.

DOE uses a spreadsheet model to calculate the energy savings and the national consumer costs and savings from each EL. Interested parties can review DOE's analyses by changing various input quantities within the spreadsheet. The NIA spreadsheet model uses typical values (as opposed to probability distributions) as inputs.

Table IV.14 summarizes the inputs and methods DOE used for the NIA analysis for the NOPD. Discussion of these inputs and methods follows the table. See chapter 10 of the NOPD TSD for details.

TABLE IV.14—SUMMARY OF INPUTS AND METHODS FOR THE NATIONAL IMPACT ANALYSIS

Inputs	Method
Shipments	Annual shipments from shipments model.
Modeled Compliance Date of Standard	2027.
Efficiency Trends	No-new-standards case. Standards cases.
Annual Energy Consumption per Unit	Annual weighted-average values are a function of energy use at each EL.
Total Installed Cost per Unit	Annual weighted-average values are a function of cost at each EL.
Annual Energy Cost per Unit	Annual weighted-average values as a function of the annual energy consumption per unit and energy prices.
Repair and Maintenance Cost per Unit	Annual values do not change with efficiency level.
Energy Prices	*AEO2021* projections (to 2050) and extrapolation through 2056.
Energy Site-to-Primary and FFC Conversion	A time-series conversion factor based on *AEO2021*.
Discount Rate	3 percent and 7 percent.
Present Year	2021.

1. Product Efficiency Trends

A key component of the NIA is the trend in energy efficiency projected for the no-new-standards case and each of the standards cases. Section IV.E.9 of this document describes how DOE developed an energy efficiency distribution for the no-new-standards case (which yields a shipment-weighted average efficiency) for each of the considered product classes for the year of anticipated compliance with an amended or new standard.

For the standards cases, DOE used a ''roll-up'' switching scenario to establish the shipment-weighted efficiency for the year that standards are assumed to become effective (2027). In this scenario, the market shares of product in the no-new-standards case that do not meet the standard under consideration would ''roll up'' to meet the new standard level or switch to the ''nearest neighbor'' based on the flow rate of the valves that were originally used. The market share of product above the standard would remain unchanged.

2. National Energy Savings

The NES analysis involves a comparison of national energy consumption of the considered product between each potential standards case (EL) and the case with no new or amended energy conservation standards. DOE calculated the national energy consumption by multiplying the number of units (stock) of each product (by vintage or age) by the unit energy consumption (also by vintage). DOE calculated annual NES based on the difference in national energy consumption for the no-new-standards case and for each higher efficiency standard case. DOE estimated energy consumption and savings based on site energy and converted the electricity

[23] The NIA accounts for impacts in the 50 states and Washington, DC.

consumption and savings to primary energy (*i.e.,* the energy consumed by power plants to generate site electricity) using annual conversion factors derived from *AEO2021.* Cumulative energy savings are the sum of the NES for each year over the timeframe of the analysis.

The use of a higher-efficiency product is occasionally associated with a direct rebound effect, which refers to an increase in utilization of the product due to the increase in efficiency. For commercial prerinse spray valves, DOE did not use a rebound effect estimate. DOE does not include the rebound effect in the NPV analysis because it reasons that the increased service from greater use of the product has an economic value that is reflected in the value of the foregone energy savings.

In 2011, in response to the recommendations of a committee on ''Point-of-Use and Full-Fuel-Cycle Measurement Approaches to Energy Efficiency Standards'' appointed by the National Academy of Sciences, DOE announced its intention to use FFC measures of energy use and greenhouse gas and other emissions in the NIA and emissions analyses included in future energy conservation standards rulemakings. 76 FR 51281 (Aug. 18, 2011). After evaluating the approaches discussed in the August 18, 2011 notice, DOE published a statement of amended policy in which DOE explained its determination that EIA's National Energy Modeling System (''NEMS'') is the most appropriate tool for its FFC analysis and its intention to use NEMS for that purpose. 77 FR 49701 (Aug. 17, 2012). NEMS is a public domain, multi-sector, partial equilibrium model of the U.S. energy sector [24] that EIA uses to prepare its AEO. The FFC factors incorporate losses in production, and delivery in the case of natural gas, (including fugitive emissions) and additional energy used to produce and deliver the various fuels used by power plants. The approach used for deriving FFC measures of energy use and emissions is described in appendix 10B of the NOPD TSD.

3. Net Present Value Analysis

The inputs for determining the NPV of the total costs and benefits experienced by consumers are (1) total annual installed cost, (2) total annual operating costs (energy costs and repair and maintenance costs), and (3) a discount factor to calculate the present value of costs and savings. DOE calculates net savings each year as the difference between the no-new-standards case and each standards case in terms of total savings in operating costs versus total increases in installed costs. DOE calculates operating cost savings over the lifetime of each product shipped during the projection period.

The operating cost savings are energy cost savings, which are calculated using the estimated energy savings in each year and the projected price of the appropriate form of energy. To estimate energy prices in future years, DOE multiplied the average regional energy prices by the projection of annual national-average commercial energy price changes in the Reference case from *AEO2021,* which has an end year of 2050. To estimate price trends after 2050, DOE used the average annual rate of change in prices from 2020 through 2050. As part of the NIA, DOE also analyzed scenarios that used inputs from variants of the *AEO2021* Reference case that have lower and higher economic growth. Those cases have lower and higher energy price trends compared to the Reference case. NIA results based on these cases are presented in appendix 10C of the NOPD TSD.

In calculating the NPV, DOE multiplies the net savings in future years by a discount factor to determine their present value. For this NOPD, DOE estimated the NPV of consumer benefits using both a 3-percent and a 7-percent real discount rate. DOE uses these discount rates in accordance with guidance provided by the Office of Management and Budget (''OMB'') to Federal agencies on the development of regulatory analysis.[25] The discount rates for the determination of NPV are in contrast to the discount rates used in the LCC analysis, which are designed to reflect a consumer's perspective. The 7-percent real value is an estimate of the average before-tax rate of return to private capital in the U.S. economy. The 3-percent real value represents the ''social rate of time preference,'' which is the rate at which society discounts future consumption flows to their present value.

G. Manufacturer Impact Analysis

1. Overview

DOE conducted a MIA for commercial prerinse spray valves to estimate the financial impacts of analyzed amended energy conservation standards on manufacturers of commercial prerinse spray valves. The MIA has both quantitative and qualitative aspects. The quantitative part of the MIA relies on the Government Regulatory Impact Model (''GRIM''), an industry cash-flow model customized for the commercial prerinse spray valves covered in this proposed determination. The key GRIM inputs are data on the industry cost structure, MPCs, and shipments, as well as assumptions about manufacturer markups and manufacturer conversion costs. The key MIA output is industry net present value (''INPV''), which is the sum of industry annual cash flows over the analysis period, discounted using the industry-weighted average cost of capital, and the impact to domestic manufacturing employment. The GRIM calculates annual cash flows using standard accounting principles. DOE used the GRIM to compare changes in INPV between the no-new-standards case and various ELs, the standards cases. The difference in INPV between the no-new-standards case and the standards cases represents the financial impact of potential amended energy conservation standards on CPSV manufacturers. Different sets of assumptions (conversion cost scenarios) produce different INPV results. The qualitative part of the MIA addresses factors such as manufacturing capacity; characteristics of, and impacts on, any particular subgroup of manufacturers, including small manufacturers; the cumulative regulatory burden placed on CPSV manufacturers; and any impacts on competition.

2. GRIM Analysis and Key Inputs

DOE uses the GRIM to quantify the changes in cash flows over time due to potential amended energy conservation standards. These changes in cash flows result in either a higher or lower INPV for the standards cases compared to the no-new-standards case. The GRIM uses a standard annual cash-flow analysis that incorporates MPCs, manufacturer markups, shipments, and industry financial information as inputs. It then models changes in manufacturer investments that may result from the analyzed amended energy conservation standards. The GRIM uses these inputs to calculate a series of annual cash flows beginning with the reference year of the analysis, 2021, and continuing to the terminal year of the analysis, 2056. DOE computes INPV by summing the stream of annual discounted cash flows during the analysis period. DOE used a real discount rate of 6.89 percent, the same discount rate used in the January 2016 Final Rule, for CPSV manufacturers in this NOPD. 81 FR 4748, 4749. Many of

[24] For more information on NEMS, refer to *The National Energy Modeling System: An Overview 2009,* DOE/EIA–0581(2009), October 2009. Available at *https://www.eia.gov/analysis/pdfpages/0581(2009)index.php.*

[25] United States Office of Management and Budget. *Circular A–4: Regulatory Analysis.* September 17, 2003. Section E. Available at *www.whitehouse.gov/omb/memoranda/m03-21.html.*

the GRIM inputs come from the engineering analysis, the shipments analysis, and other research conducted during the MIA. The major GRIM inputs are described in detail in the following sections.

DOE seeks comment on the use of 6.89 as a real discount rate for CPSV manufacturers.

a. Manufacturer Product Costs

Manufacturing more efficient products is typically more expensive than manufacturing baseline products. However, as discussed in section IV.B.2 of this document, the MPCs for all commercial prerinse spray valves is constant at every efficiency level and for every product class. In the MIA, DOE used the MPCs calculated in the engineering analysis, as described in section IV.B.2 of this document and further detailed in chapter 5 of the TSD for this NOPD.

b. Shipment Projections

INPV, the key GRIM output, depends on industry revenue, which depends on the quantity and prices of commercial prerinse spray valves shipped in each year of the analysis period. Industry revenue calculations require forecasts of (1) total annual shipment volume of commercial prerinse spray valves, (2) the distribution of shipments across the product classes, and (3) the distribution of shipments across ELs.

In the MIA, DOE used the shipments calculated as part of the shipments analysis discussion in section IV.F of this document and chapter 9 of the TSD for this NOPD.

c. Product and Capital Conversion Costs

DOE expects the analyzed amended CPSV energy conservation standards would cause manufacturers to incur conversion costs to bring their production facilities and product designs into compliance with potential amended standards. For the MIA, DOE classified these conversion costs into two groups: (1) Capital conversion costs and (2) product conversion costs. Capital conversion costs are investments in property, plant, and equipment necessary to adapt or change existing production facilities so new product designs can be fabricated and assembled. Product conversion costs are investments in research, development, testing, marketing, certification, and other non-capitalized costs necessary to make product designs comply with potential amended standards.

In general, DOE assumes all conversion-related investments occur between the year of publication of a potential final rule and the year by which manufacturers must comply with potential amended standards. DOE created estimates of industry capital and product conversion costs using the engineering cost model and information gained during product teardowns. Product conversion costs depend on the number of CPSV models that need to be redesigned and re-tested as well as the number of manufacturers that need to update brochures and marketing materials. Capital conversion costs are based on the number of plastic spray patterns that would need to be fabricated by CPSV manufacturers. The conversion cost estimates are presented in section V.B of this document.

d. Manufacturer Markup

As discussed in section IV.H.2.a of this document, the MPCs for commercial prerinse spray valves are the manufacturers' costs for those products. The MPCs include materials, direct labor, depreciation, and overhead, which are collectively referred to as the cost of goods sold. The MSP is the price received by CPSV manufacturers from the first sale of those products, typically to a distributor, regardless of the downstream distribution channel through which the commercial prerinse spray valves are ultimately sold. The MSP is not the price the end-user pays for commercial prerinse spray valves because there are typically multiple sales along the distribution chain and various markups applied to each sale. The MSP equals the MPC multiplied by the manufacturer markup. The manufacturer markup covers all the CPSV manufacturer's non-production costs (*i.e.,* selling, general, and administrative expenses; research and development; and interest) as well as profit. Total industry revenue for CPSV manufacturers equals the MSPs at each efficiency level multiplied by the number of shipments at that efficiency level for all product classes. As previously discussed in section IV.B.2 of this document, the MPC for all commercial prerinse spray valves is the same at each ELs for all product classes. Therefore, total industry revenue equals the MSP multiplied by the number of shipments.

In the June 2020 RFI, DOE requested comment on whether the manufacturer markup of 1.30 from the January 2016 Final Rule is still appropriate to represent the market share weighted average value. 85 FR 35383, 35389. DOE did not receive any comments on this topic. Therefore, in this NOPD MIA, DOE used the same manufacturer markup of 1.30 that was used in the January 2016 Final Rule.

V. Analytical Results and Conclusions

The following section addresses the results from DOE's analyses with respect to the considered energy conservation standards for commercial prerinse spray valves. It addresses the ELs examined by DOE and the projected impacts of each of these levels. Additional details regarding DOE's analyses are contained in the NOPD TSD supporting this document.

A. Economic Impacts on Individual Consumers

DOE analyzed the cost effectiveness (*i.e.,* the savings in operating costs throughout the estimated average life of commercial prerinse spray valves compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the commercial prerinse spray valves) that is likely to result from the imposition of a standard at an efficiency level by considering the LCC and PBP at each EL. DOE also examined the impacts of potential standards on selected consumer subgroups. These analyses are discussed in the following sections.

Typically, a higher-efficiency product can affect consumers in two ways: (1) Purchase price increases and (2) annual operating costs decrease. In the case of commercial prerinse spray valves, there is no incremental cost associated with the higher-efficiency product. Inputs used for calculating the LCC and PBP include total installed costs (*i.e.,* product price plus installation costs) and operating costs (*i.e.,* annual energy use, energy prices, energy price trends, repair costs, and maintenance costs). The LCC calculation also uses product lifetime and a discount rate. Chapter 8 of the NOPD TSD provides detailed information on the LCC and PBP analyses.

Table V.1 shows the average LCC and PBP results for the ELs considered for commercial prerinse spray valves in this analysis.

TABLE V.1—AVERAGE LCC AND PBP RESULTS BY EFFICIENCY LEVEL

Efficiency level	LCC savings *2020$*	Simple payback period *years*
EL 1	$379.05	0
EL 2	739.23	0
EL 3	751.50	0

The average LCC results in Table V.1 reflect the assumption of a consumer opting to stay within the same product class and not incorporating the switching between product classes that is modeled when assessing national impacts. The results in Table V.1 also

assume a consumer purchases a product from an efficiency level that exists in the market as shown in Table IV.13. As a result, product class 1 consumers at baseline efficiency level purchase efficiency level 2 products in the LCC analysis, and product class 2 consumers at efficiency level 1 purchase efficiency level 3 in the LCC analysis.

B. Economic Impacts on Manufacturers

DOE performed a MIA to estimate the impact of potential amended energy conservation standards on manufacturers of commercial prerinse spray valves. The following sections describe the expected impacts on CPSV manufacturers at each EL. Chapter 11 of the NOPD TSD explains the MIA in further detail.

1. Industry Cash Flow Analysis Results

In this section, DOE provides MIA results from the analysis, which examines changes in the industry that could result from new and amended standards. Table V.2 and Table V.3 depict the estimated financial impacts (represented by changes in INPV) of potential amended energy conservation standards on CPSV manufacturers, as well as the conversion costs that DOE estimates manufacturers would incur at each EL. To evaluate the range of cash flow impacts on the CPSV industry, DOE modeled two conversion cost scenarios that correspond to the range of potential manufacturer investments that may occur in responses to potential amended standards. Each conversion cost scenario results in a unique set of cash flows and corresponding industry values at each EL.

In the following discussion, the INPV results refer to the difference in industry value between the no-new-standards case and the standards cases that result from the sum of discounted cash flows from the reference year (2021) through the end of the analysis period (2056). The results also discuss the difference in cash flows between the no-new-standards case and the standards cases in the year before the analyzed compliance date for potential amended energy conservation standards. This differential represents the size of the required conversion costs relative to the cash flow generated by the CPSV industry in the absence of amended energy conservation standards.

To assess the upper (less severe) end of the range of potential impacts on CPSV manufacturers, DOE modeled a sourced conversion cost scenario. This scenario assumes that the majority of CPSV manufacturers, but not all CPSV manufacturers, source components (including the nozzle) from component suppliers and simply assemble the commercial prerinse spray valves. In this scenario, the CPSV manufacturers that DOE assumed source components would not incur capital conversion cost related to the fabrication of plastic nozzles if CPSV manufacturers must redesign nozzle molds due to the analyzed energy conservation standards.

To assess the lower (more severe) end of the range of potential impacts on CPSV manufacturers, DOE modeled a fabricated conversion cost scenario. This scenario assumes that all of the CPSV manufacturers currently selling products with plastic spray nozzles fabricate these nozzles in-house. In this scenario, all CPSV manufacturers incur capital conversion costs related to the fabrication of plastic nozzles if CPSV manufacturers must redesign nozzle molds due to analyzed energy conservation standards.

DOE seeks comment on the methodology for estimating manufacturer conversion costs used in the two conversion cost scenarios (the sourced conversion cost scenario and the fabricated conversion cost scenario). Additionally, DOE seeks comment of how many manufacturers fabricate plastic nozzles in-house verses how many manufacturers out-source the production of the plastic nozzles for their commercial prerinse spray valves.

Table V.2 and Table V.3 present the projected results for commercial prerinse spray valves under the sourced and fabricated conversion cost scenarios. DOE examined results for all product classes together since most manufacturers sell products across a variety of the analyzed product classes.

TABLE V.2—MANUFACTURER IMPACT ANALYSIS FOR COMMERCIAL PRERINSE SPRAY VALVES—SOURCED CONVERSION COST SCENARIO

	Units	No-new-standards case	Efficiency level *		
			1	2	3
INPV	(*2020$ millions*)	11.5	10.6	10.6	10.6
Change in INPV	(*2020$ millions*)		(0.9)	(0.9)	(0.9)
	(*%*)		(7.5)	(7.5)	(7.6)
Product Conversion Costs	(*2020$ millions*)		1.3	1.3	1.3
Capital Conversion Costs	(*2020$ millions*)		0.1	0.1	0.1
Total Conversion Costs	(*2020$ millions*)		1.4	1.4	1.4

* Numbers in parentheses indicate negative numbers.

TABLE V.3—MANUFACTURER IMPACT ANALYSIS FOR COMMERCIAL PRERINSE SPRAY VALVES—FABRICATED CONVERSION COST SCENARIO

	Units	No-new-standards case	Efficiency level *		
			1	2	3
INPV	(*2020$ millions*)	11.5	10.5	10.5	10.4
Change in INPV	(*2020$ millions*)		(1.0)	(1.0)	(1.1)
	(*%*)		(8.5)	(8.5)	(9.5)
Product Conversion Costs	(*2020$ millions*)		1.3	1.3	1.3
Capital Conversion Costs	(*2020$ millions*)		0.3	0.3	0.4
Total Conversion Costs	(*2020$ millions*)		1.6	1.6	1.7

* Numbers in parentheses indicate negative numbers.

At EL 1, DOE estimates the impacts on INPV to range from −$1.0 million to −$0.9 million, or a change in INPV of −8.5 percent to −7.5 percent. At EL 1, industry free cash flow (operating cash flow minus capital expenditures) is estimated to decrease to $0.1 million, or a drop of up to 88.2 percent, compared to the no-new-standards case value of $0.7 million in 2026, the year leading up to the analyzed compliance date of potential amended energy conservation standards.

Percentage impacts on INPV are moderately negative at EL 1. DOE projects that in the analyzed year of compliance (2027), 97 percent of CPSV shipments in product class 1, 26 percent of CPSV shipments in product class 2, and 14 percent of CPSV shipments in product class 3 will meet EL 1. DOE expects CPSV manufacturers to incur approximately $1.3 million in product conversion costs to update brochures and marketing material and re-test and redesigned CPSV models that would need to be redesigned if standards were set at EL 1. Additionally, CPSV manufacturers would incur between $0.3 million and $0.1 million in capital conversion costs to fabricate new plastic nozzle molds to accommodate spray patterns that could meet potential standards set at EL 1.

At EL 2, DOE estimates the impacts on INPV to range from −$1.0 million to −$0.9 million, or a change in INPV of −8.5 percent to −7.5 percent. At EL 2, industry free cash flow (operating cash flow minus capital expenditures) is estimated to decrease to $0.1 million, or a drop of up to 88.2 percent, compared to the no-new-standards case value of $0.7 million in 2026, the year leading up to the analyzed compliance date of potential amended energy conservation standards.

Percentage impacts on INPV are moderately negative at EL 2. DOE projects that in the analyzed year of compliance (2027), 97 percent of CPSV shipments in product class 1 and 2 percent of CPSV shipments in product class 2 will meet or exceed EL 2. Product class 3 is already at max-tech, and 14 percent of product class 3 CPSV shipments will meet max-tech. DOE expects CPSV manufacturers to incur approximately $1.3 million in product conversion costs to update brochures and marketing material and re-test and redesigned CPSV models that would need to be redesigned if standards were set at EL 2. Additionally, CPSV manufacturers would incur between $0.3 million and $0.1 million in capital conversion costs to fabricate new plastic nozzle molds to accommodate spray patterns that could meet potential standards set at EL 2.

At EL 3, max-tech for all product classes, DOE estimates the impacts on INPV to range from −$1.1 million to −$0.9 million, or a change in INPV of −9.5 percent to −7.6 percent. At EL 3, industry free cash flow (operating cash flow minus capital expenditures) is estimated to decrease to less than $0.1 million, or a drop of up to 99.0 percent, compared to the no-new-standards case value of $0.7 million in 2026, the year leading up to the analyzed compliance date of potential amended energy conservation standards.

Percentage impacts on INPV are moderately negative at EL 3. DOE projects that in the analyzed year of compliance (2027), 9 percent of CPSV shipments in product class 1, 2 percent of CPSV shipments in product class 2, and 14 percent of CPSV shipments in product class 3 will meet max-tech. DOE expects CPSV manufacturers to incur approximately $1.3 million in product conversion costs to update brochures and marketing material and re-test and redesigned CPSV models that would need to be redesigned if standards were set at EL 3. Additionally, CPSV manufacturers would incur between $0.4 million and $0.1 million in capital conversion costs to fabricate new plastic nozzle molds to accommodate spray patterns that could meet potential standards set at EL 3.

2. Direct Impacts on Employment

The design option specified for achieving greater ELs (*i.e.,* changing the total spray hole area of the CPSV nozzle) does not increase the labor content (measured in dollars) of commercial prerinse spray valves at any EL, nor does it increase total MPC or labor associated with manufacturing commercial prerinse spray valves. Additionally, total industry shipments are forecasted to be constant at all the analyzed standard levels. Therefore, DOE predicts no change in domestic manufacturing employment levels due to any of the analyzed standard levels.

3. Impacts on Manufacturing Capacity

Not every CPSV manufacturer makes CPSV models that could meet all the analyzed amended energy conservation standards for all product classes. However, DOE believes that manufacturers would not need to make substantial platform changes or significant investments for their CPSV products to meet any of the amended energy conservation standards analyzed in this rulemaking. Therefore, DOE does not foresee any significant impact on manufacturing capacity due to any of the analyzed amended energy conservation standards.

4. Impacts on Subgroups of Manufacturers

Using average cost assumptions to develop an industry cash-flow estimate may not be adequate for assessing differential impacts among manufacturer subgroups. Small manufacturers, niche product manufacturers, and manufacturers exhibiting cost structures substantially different from the industry average could be affected disproportionately. DOE analyzed the impacts on small businesses in section VI.B of this document. DOE did not identify any other manufacturer subgroups for this rulemaking.

5. Cumulative Regulatory Burden

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

C. National Impact Analysis

This section presents DOE's estimates of the NES and the NPV of consumer benefits that would result from each of the ELs considered as potential amended standards.

1. Significance of Energy Savings

To estimate the energy savings attributable to potential amended standards for commercial prerinse spray valves, DOE compared their energy consumption under the no-new-

standards case to their anticipated energy consumption under each EL. The savings are measured over the entire lifetime of product purchased in the 30-year period that begins in the year of anticipated compliance with amended standards (2027–2056). Table V.4 presents DOE's projections of the NES for each efficiency level considered for commercial prerinse spray valves. The savings were calculated using the nearest neighbor switch scenario as described in section IV.F.1 of this document. The savings were calculated using the approach described in section IV.G of this document.

TABLE V.4—CUMULATIVE NATIONAL ENERGY AND WATER SAVINGS FOR COMMERCIAL PRERINSE SPRAY VALVES; 30 YEARS OF SHIPMENTS (2027–2056)

Efficiency level	National energy savings			National water savings (billion gal)
	Site energy (quads)	Primary energy (quads)	FFC energy (quads)	
1	0.014	0.052	0.055	53.153
2	0.010	0.037	0.039	37.882
3	0.011	0.039	0.041	39.435

Table V.5 presents DOE's projections of the NES for each efficiency level considered for commercial prerinse spray valves. The savings were calculated using the product switch scenario as described in section IV.F.2 of this document. The savings were calculated using the approach described in section IV.G of this document.

TABLE V.5—CUMULATIVE NATIONAL ENERGY AND WATER SAVINGS FOR COMMERCIAL PRERINSE SPRAY VALVES; 30 YEARS OF SHIPMENTS (2027–2056)—PRODUCT SWITCH SCENARIO

Efficiency level	National energy savings *			National water savings * (billion gal)
	Site energy (quads)	Primary energy (quads)	FFC energy (quads)	
1	(0.028)	(0.102)	(0.108)	(104.043)
2	(0.032)	(0.117)	(0.123)	(119.313)
3	(0.032)	(0.116)	(0.122)	(117.761)

* Values in parenthesis indicate negative values.

OMB Circular A–4 [26] requires agencies to present analytical results, including separate schedules of the monetized benefits and costs that show the type and timing of benefits and costs. Circular A–4 also directs agencies to consider the variability of key elements underlying the estimates of benefits and costs. For this proposed determination, DOE undertook a sensitivity analysis using 9 years, rather than 30 years, of product shipments. The choice of a 9-year period is a proxy for the timeline in EPCA for the review of certain energy conservation standards and potential revision of and compliance with such revised standards.[27] The review timeframe established in EPCA is generally not synchronized with the product lifetime, product manufacturing cycles, or other factors specific to commercial prerinse spray valves. Thus, such results are presented for informational purposes only and are not indicative of any change in DOE's analytical methodology. The NES sensitivity analysis results based on a 9-year analytical period are presented in Table V.6. The saving values in Table V.6 were calculated using the nearest neighbor product class switching scenario as described in section IV.F.1 of this document. The impacts are counted over the lifetime of commercial prerinse spray valves purchased in 2027–2035.

TABLE V.6—CUMULATIVE NATIONAL ENERGY AND WATER SAVINGS FOR COMMERCIAL PRERINSE SPRAY VALVES; 9 YEARS OF SHIPMENTS (2027–2035)

Efficiency level	National energy savings			National water savings (billion gal)
	Site energy (quads)	Primary energy (quads)	FFC energy (quads)	
1	0.004	0.014	0.015	14.315
2	0.003	0.010	0.011	10.203

[26] U.S. Office of Management and Budget. *Circular A–4: Regulatory Analysis.* September 17, 2003. Available at *https://obamawhitehouse.archives.gov/omb/circulars_a004_a-4/.*

[27] Section 325(m) of EPCA requires DOE to review its standards at least once every 6 years, and requires, for certain products, a 3-year period after any new standard is promulgated before compliance is required, except that in no case may any new standards be required within 6 years of the compliance date of the previous standards. If DOE makes a determination that amended standards are not needed, it must conduct a subsequent review within three years following such a determination. As DOE is evaluating the need to amend the standards, the sensitivity analysis is based on the review timeframe associated with amended standards. While adding a 6-year review to the 3-year compliance period adds up to 9 years, DOE notes that it may undertake reviews at any time within the 6-year period and that the 3-year compliance date may yield to the 6-year backstop. A 9-year analysis period may not be appropriate given the variability that occurs in the timing of standards reviews and the fact that for some products, the compliance period is 5 years rather than 3 years.

TABLE V.6—CUMULATIVE NATIONAL ENERGY AND WATER SAVINGS FOR COMMERCIAL PRERINSE SPRAY VALVES; 9 YEARS OF SHIPMENTS (2027–2035)—Continued

Efficiency level	National energy savings			National water savings (billion gal)
	Site energy (quads)	Primary energy (quads)	FFC energy (quads)	
3	0.003	0.010	0.011	10.621

The savings in Table V.7 were calculated using the product switch scenario as described in section IV.F.2 of this document. The impacts are counted over the lifetime of commercial prerinse spray valves purchased in 2027–2035.

TABLE V.7—CUMULATIVE NATIONAL ENERGY AND WATER SAVINGS FOR COMMERCIAL PRERINSE SPRAY VALVES; 9 YEARS OF SHIPMENTS (2027–2035)—PRODUCT SWITCH SCENARIO

Efficiency level	National energy savings *			National water savings * (billion gal)
	Site energy (quads)	Primary energy (quads)	FFC energy (quads)	
1	(0.008)	(0.028)	(0.029)	(28.022)
2	(0.009)	(0.032)	(0.033)	(32.134)
3	(0.009)	(0.031)	(0.033)	(31.716)

* Values in parenthesis indicate negative values.

2. Net Present Value of Consumer Costs and Benefits

DOE estimated the cumulative NPV of the total costs and savings for consumers that would result from the ELs considered for commercial prerinse spray valves. In accordance with OMB's guidelines on regulatory analysis,[28] DOE calculated NPV using both a 7-percent and a 3-percent real discount rate. Table V.8 shows the consumer NPV results with impacts counted over the lifetime of product purchased in 2027–2056. Values in Table V.8 are based on the shipments as described in section IV.F.1 of this document.

TABLE V.8—CUMULATIVE NET PRESENT VALUE OF CONSUMER BENEFITS FOR COMMERCIAL PRERINSE SPRAY VALVES; 30 YEARS OF SHIPMENTS (2027–2056)

Efficiency level	Net present value (billion $2020)	
	7-percent discount rate	3-percent discount rate
1	0.350	0.770
2	0.249	0.549
3	0.259	0.572

DOE also calculated the NPV for the alternate shipment scenario (as described in section IV.F.1) using both a 7-percent and a 3-percent real discount rate. Table V.9 shows the consumer NPV results with impacts counted over the lifetime of product purchased in 2027–2056.

TABLE V.9—CUMULATIVE NET PRESENT VALUE OF CONSUMER BENEFITS FOR COMMERCIAL PRERINSE SPRAY VALVES; 30 YEARS OF SHIPMENTS (2027–2056)—PRODUCT SWITCH SCENARIO

Efficiency level	Net present value (billion $2020) *	
	7-percent discount rate	3-percent discount rate
1	(0.684)	(1.508)
2	(0.785)	(1.729)
3	(0.774)	(1.707)

* Values in parenthesis indicate negative values.

[28] U.S. Office of Management and Budget. *Circular A–4: Regulatory Analysis.* September 17, 2003. Available at *https://obamawhitehouse.archives.gov/omb/circulars_a004_a-4/.*

The NPV results based on the aforementioned 9-year analytical period are presented in Table V.10. The impacts are counted over the lifetime of product purchased in 2027–2035. As mentioned previously, such results are presented for informational purposes only and are not indicative of any change in DOE's analytical methodology or decision criteria.

TABLE V.10—CUMULATIVE NET PRESENT VALUE OF CONSUMER BENEFITS FOR COMMERCIAL PRERINSE SPRAY VALVES; 9 YEARS OF SHIPMENTS (2027–2035)

Efficiency level	Net present value (billion $2020)	
	7-percent discount rate	3-percent discount rate
1	0.160	0.246
2	0.112	0.176
3	0.116	0.183

The NPV results based on the 9-year analytical period (2027–2035) for the alternate shipment scenario (as described in section IV.F.1) are presented in Table V.11.

TABLE V.11—CUMULATIVE NET PRESENT VALUE OF CONSUMER BENEFITS FOR COMMERCIAL PRERINSE SPRAY VALVES; 9 YEARS OF SHIPMENTS (2027–2035)—PRODUCT SWITCH SCENARIO

Efficiency level	Net present value (billion $2020) *	
	7-percent discount rate	3-percent discount rate
1	(0.306)	(0.482)
2	(0.351)	(0.553)
3	(0.347)	(0.546)

* Values in parenthesis indicate negative values.

D. Proposed Determination

As required by EPCA, this NOPD analyzes whether amended standards for commercial prerinse spray valves would result in significant conservation of energy, be technologically feasible, and be cost effective. (42 U.S.C. 6295(m)(1)(A) and 42 U.S.C. 6295(n)(2)) Additionally, DOE also estimated the impact on manufacturers. The criteria considered under 42 U.S.C. 6295(m)(1)(A) and the additional analysis are discussed in the following subsections. Because an analysis of potential cost effectiveness and energy savings first require an evaluation of the relevant technology, DOE first discusses the technological feasibility of amended standards. DOE then addresses the cost effectiveness and energy savings associated with potential amended standards.

1. Technological Feasibility

EPCA mandates that DOE consider whether amended energy conservation standards for commercial prerinse spray valves would be technologically feasible. (42 U.S.C. 6295(m)(1)(A) and 42 U.S.C. 6295(n)(2)(B)) DOE has tentatively determined that there are technology options that would improve the efficiency of commercial prerinse spray valves. These technology options are being used in commercially available commercial prerinse spray valves and therefore are technologically feasible. (See section IV.A.2 for further information.) Hence, DOE has tentatively determined that amended energy conservation standards for commercial prerinse spray valves are technologically feasible.

2. Cost Effectiveness

EPCA requires DOE to consider whether energy conservation standards for commercial prerinse spray valves would be cost effective through an evaluation of the savings in operating costs throughout the estimated average life of the covered product compared to any increase in the price of, or in the initial charges for, or maintenance expenses of, the covered product which are likely to result from the imposition of an amended standard. (42 U.S.C. 6295(m)(1)(A), 42 U.S.C. 6295(n)(2)(C), and 42 U.S.C. 6295(o)(2)(B)(i)(II)) DOE conducted an LCC analysis to estimate the net costs/benefits to users from increased efficiency in the considered commercial prerinse spray valves. (See results in Table V.1.) DOE then aggregated the results from the LCC analysis to estimate the NPV of the total costs and benefits experienced by the Nation. (See results in Table V.8 and Table V.10.) As noted, the inputs for determining the NPV are (1) total annual installed cost, (2) total annual operating costs (energy costs and repair and maintenance costs), and (3) a discount factor to calculate the present value of costs and savings.

DOE considered each of the efficiency levels. All efficiency levels would result in positive NPV at the 3-percent and 7-percent discount rates. However, in DOE's sensitivity analysis, wherein a subset of consumers exit the CPSV market and switch to higher flow-rate products such as faucets (product switch scenario), all efficiency levels would result in a negative NPV at the 3-percent and 7-percent discount rates.

DOE notes that the lack of incremental costs to consumers associated with higher-efficiency products makes LCC and NPV values cost-effective. However, the potential reduction in consumer utility risks driving consumers to alternative products with higher flow-rates. As discussed in section IV.F.2 of this document, the change in product availability since the January 2016 Final Rule makes it more likely that certain

consumers would switch to higher flow-rate products in response to amended standards. This shift increases the likelihood that amended standards could result in a negative NPV. Therefore, DOE has tentatively determined that amended standards would not be economically justified at any efficiency level due to the increased likelihood of consumers switching products to higher flow-rate products as a result of decreased consumer utility due to potential amended standards, and the corresponding negative NPV of this product switch scenario.

3. Significant Conservation of Energy

EPCA also mandates that DOE consider whether amended energy conservation standards for commercial prerinse spray valves would result in significant conservation of energy. (42 U.S.C. 6295(m)(1)(A) and 42 U.S.C. 6295(n)(2)(A)) To estimate the energy savings attributable to potential amended standards for commercial prerinse spray valves, DOE compared their energy consumption under the no-new-standards case to their anticipated energy consumption under each potential standard level. The savings are measured over the entire lifetime of product purchased in the 30-year period that begins in the year of anticipated compliance with amended standards (2027–2056).

DOE estimates that amended standards for commercial prerinse spray valves would result in maximum energy savings of 0.014 site energy quads and 0.055 FFC energy savings at EL1 over a 30-year analysis period (2027–2056). (See results in Table V.4 of this document.) However, in DOE's sensitivity analysis, wherein a subset of consumers exit the CPSV market and switch to higher flow-rate products such as faucets (product switch scenario), amended standards could result in an increase in national site energy use between 0.028 (EL1) and 0.032 (EL3) quads and an increase in FFC energy use between 0.108 (EL1) and 0.124 (EL3) quads over a 30-year analysis period (2027–2056). (See results in Table V.5.) As discussed in section IV.F.2 of this document, the change in product availability since the January 2016 Final Rule makes it more likely that certain consumers would switch to higher flow-rate products in response to amended standards. This shift increases the likelihood that amended standards could result in increased energy and water usage.

4. Additional Consideration

EPCA lists several additional factors for DOE to consider in deciding whether to amend energy conservation standards. (42 U.S.C. 6295(o)(2)(B)(i)(I)–(VII)) In this analysis, DOE investigated the manufacturer impacts of any potential amended standards. DOE estimates that amended standards for commercial prerinse spray valves would result in a reduction in INPV between 7.5 and 9.5 percent. (See results in Table V.2 and Table V.3 of this document)

DOE also considers any lessening of the utility or the performance of the covered products likely to result from the imposition of the standard. (42 U.S.C. 6295(o)(2)(B)(i)(IV)) As noted in section IV.F, spray force is a driving factor of consumer utility and consumer satisfaction. As discussed in section IV.B.1.b, there is a direct relationship between flow rate and spray force. Therefore, the relationship between consumer satisfaction and spray force for commercial prerinse spray valves makes it possible that consumers may opt to switch product classes if they are unsatisfied with the spray force available to them in their current product class due to amended standards. In some cases, consumers react to amended standards by switching to a commercial prerinse spray valve, or alternative product, that consumes more water and energy than their current product. DOE accounted for this potential reduction in utility in its shipments analysis by considering the possibility of both the nearest neighbor switch scenario (section IV.F.1) and the product switch scenario (section IV.F.2).

5. Summary

In this proposed determination, although some energy savings are possible in the standards case analysis, there is risk that amended standards could result in increased energy consumption if consumers switch to higher water usage products, like faucets (product switch scenario). Similarly, the product switch scenario would also result in a negative NPV for the total costs and savings for consumers. As discussed in section IV.F.2 of this document, the change in product availability since the 2016 Final Rule makes in more likely that consumers would switch to higher water usage products in the presence of amended standards. Therefore, it is more likely that amended standards could result in increases in water, energy, and costs. The risk of these potential increases outweigh the cost effectiveness of any new or amended standards.

As such, any potential benefits from amended standards are outweighed by this risk and the additional burden on manufacturers. DOE has tentatively determined based on the estimated negative NIA values resulting from product switching and the estimated additional burden on manufacturers, new or amended standards would not be economically justified. Therefore, DOE has tentatively determined that amended standards for commercial prerinse spray valves are not needed. DOE will consider all comments received on this proposed determination in issuing any final determination.

VI. Procedural Issues and Regulatory Review

A. Review Under Executive Order 12866

This proposed determination has been determined to be not significant for purposes of Executive Order (''E.O.'') 12866, ''Regulatory Planning and Review,'' 58 FR 51735 (Oct. 4, 1993). As a result, the OMB did not review this proposed determination.

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis (''IRFA'') 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 (*https://energy.gov/gc/office-general-counsel*).

DOE reviewed this proposed determination under the provisions of the Regulatory Flexibility Act and the policies and procedures published on February 19, 2003. Because DOE is proposing not to amend standards for commercial prerinse spray valves, if adopted, the determination would not amend any energy conservation standards. On the basis of the foregoing, DOE certifies that the proposed determination, if adopted, would have no significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared an IRFA for this proposed determination. DOE will transmit this certification and supporting statement of factual basis to the Chief Counsel for Advocacy of the

Small Business Administration for review under 5 U.S.C. 605(b).

C. Review Under the Paperwork Reduction Act

Manufacturers of commercial prerinse spray valves must certify to DOE that their products comply with any applicable energy conservation standards. To certify compliance, manufacturers must first obtain test data for their products according to the DOE test procedures, including any amendments adopted for those test procedures. DOE has established regulations for the certification and recordkeeping requirements for all covered consumer products and commercial product, including commercial prerinse spray valves. (See generally 10 CFR part 429.) The collection-of-information requirement for the certification and recordkeeping is subject to review and approval by OMB under the Paperwork Reduction Act (''PRA''). This requirement has been approved by OMB under OMB control number 1910–1400. Public reporting burden for the certification is estimated to average 35 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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

D. Review Under the National Environmental Policy Act of 1969

DOE is analyzing this proposed action in accordance with the National Environmental Policy Act of 1969 (''NEPA'') and DOE's NEPA implementing regulations. 10 CFR part 1021 DOE's regulations include a categorical exclusion for actions which are interpretations or rulings with respect to existing regulations. 10 CFR part 1021, subpart D, appendix A4 DOE anticipates that this action qualifies for categorical exclusion A4 because it is an interpretation or ruling in regards to an existing regulation and otherwise meets the requirements for application of a categorical exclusion. See 10 CFR 1021.410. DOE will complete its NEPA review before issuing the final action.

E. Review Under Executive Order 13132

E.O. 13132, ''Federalism,'' 64 FR 43255 (Aug. 10, 1999), imposes certain requirements on Federal agencies formulating and implementing policies or regulations that preempt State law or that have Federalism implications. The Executive Order requires agencies to examine the constitutional and statutory authority supporting any action that would limit the policymaking discretion of the States and to carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have Federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations. 65 FR 13735. DOE has examined this proposed determination and has tentatively determined that it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. EPCA governs and prescribes Federal preemption of State regulations as to energy conservation for the products that are the subject of this proposed rule. States can petition DOE for exemption from such preemption to the extent, and based on criteria, set forth in EPCA. (42 U.S.C. 6297) Therefore, no further action is required by E.O. 13132.

F. Review Under Executive Order 12988

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

G. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (''UMRA'') requires each Federal agency to assess the effects of Federal regulatory actions on State, local, and Tribal governments and the private sector. Public Law 104–4, sec. 201 (codified at 2 U.S.C. 1531). For a proposed regulatory action likely to result in a rule that may cause the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector of $100 million or more in any one year (adjusted annually for inflation), section 202 of UMRA requires a Federal agency to publish a written statement that estimates the resulting costs, benefits, and other effects on the national economy. (2 U.S.C. 1532(a)–(b)) The UMRA also requires a Federal agency to develop an effective process to permit timely input by elected officers of State, local, and Tribal governments on a proposed ''significant intergovernmental mandate,'' and requires an agency plan for giving notice and opportunity for timely input to potentially affected small governments before establishing any requirements that might significantly or uniquely affect them. On March 18, 1997, DOE published a statement of policy on its process for intergovernmental consultation under UMRA. 62 FR 12820. DOE's policy statement is also available at *https://www.energy.gov/sites/prod/files/gcprod/documents/umra_97.pdf.*

DOE examined this proposed determination according to UMRA and its statement of policy and determined that the proposed determination does not contain a Federal intergovernmental mandate, nor is it expected to require expenditures of $100 million or more in any one year by State, local, and Tribal governments, in the aggregate, or by the private sector. As a result, the analytical requirements of UMRA do not apply.

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

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family

Policymaking Assessment for any rule that may affect family well-being. This proposed determination would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

I. Review Under Executive Order 12630

Pursuant to E.O. 12630, ''Governmental Actions and Interference with Constitutionally Protected Property Rights,'' 53 FR 8859 (Mar. 15, 1988), DOE has determined that this proposed determination would not result in any takings that might require compensation under the Fifth Amendment to the U.S. Constitution.

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

Section 515 of the Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516 note) provides for Federal agencies to review most disseminations of information to the public under information quality guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (Feb. 22, 2002), and DOE's guidelines were published at 67 FR 62446 (Oct. 7, 2002). Pursuant to OMB Memorandum M–19–15, Improving Implementation of the Information Quality Act (April 24, 2019), DOE published updated guidelines which are available at *https://www.energy.gov/sites/prod/files/2019/12/f70/DOE%20Final%20Updated%20IQA%20Guidelines%20Dec%202019.pdf.* DOE has reviewed this NOPD under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

K. Review Under Executive Order 13211

E.O. 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,'' 66 FR 28355 (May 22, 2001), requires Federal agencies to prepare and submit to the Office of Information and Regulatory Affairs (''OIRA'') at OMB, a Statement of Energy Effects for any proposed significant energy action. A ''significant energy action'' is defined as any action by an agency that promulgates or is expected to lead to promulgation of a final rule, and that (1) is a significant regulatory action under E.O. 12866, or any successor Executive Order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use.

This proposed determination, which does not propose to amend energy conservation standards for commercial prerinse spray valves, is not a significant regulatory action under E.O. 12866. Moreover, it would not have a significant adverse effect on the supply, distribution, or use of energy, nor has it been designated as such by the Administrator at OIRA. Accordingly, DOE has not prepared a Statement of Energy Effects.

L. Review Under the Information Quality Bulletin for Peer Review

On December 16, 2004, OMB, in consultation with the Office of Science and Technology Policy (''OSTP''), issued its Final Information Quality Bulletin for Peer Review (''the Bulletin''). 70 FR 2664 (Jan. 14, 2005). The Bulletin establishes that certain scientific information shall be peer reviewed by qualified specialists before it is disseminated by the Federal Government, including influential scientific information related to agency regulatory actions. The purpose of the bulletin is to enhance the quality and credibility of the Government's scientific information. Under the Bulletin, the energy conservation standards rulemaking analyses are ''influential scientific information,'' which the Bulletin defines as ''scientific information the agency reasonably can determine will have, or does have, a clear and substantial impact on important public policies or private sector decisions.'' 70 FR 2664, 2667.

In response to OMB's Bulletin, DOE conducted formal peer reviews of the energy conservation standards development process and the analyses that are typically used and has prepared Peer Review report pertaining to the energy conservation standards rulemaking analyses.[29] Generation of this report involved a rigorous, formal, and documented evaluation using objective criteria and qualified and independent reviewers to make a judgment as to the technical/scientific/business merit, the actual or anticipated results, and the productivity and management effectiveness of programs and/or projects. DOE has determined that the peer-reviewed analytical process continues to reflect current practice, and the Department followed that process for considering amended energy conservation standards in the case of the present action.

[29] ''Energy Conservation Standards Rulemaking Peer Review Report.'' 2007. Available at *https://www.energy.gov/eere/buildings/downloads/energy-conservation-standards-rulemaking-peer-review-report-0.*

VII. Public Participation

A. Participation in the Webinar

The time and date of the webinar are listed in the **DATES** section at the beginning of this document. Webinar registration information, participant instructions, and information about the capabilities available to webinar participants will be published on DOE's website at *https://cms.doe.gov/eere/buildings/public-meetings-and-comment-deadlines.* Participants are responsible for ensuring their systems are compatible with the webinar software.

B. Procedure for Submitting Prepared General Statements for Distribution

Any person who has an interest in the topics addressed in this notice, or who is representative of a group or class of persons that has an interest in these issues, may request an opportunity to make an oral presentation at the webinar. Such persons may submit such request to *ApplianceStandardsQuestions@ee.doe.gov.* Persons who wish to speak should include with their request a computer file in WordPerfect, Microsoft Word, PDF, or text (ASCII) file format that briefly describes the nature of their interest in this rulemaking and the topics they wish to discuss. Such persons should also provide a daytime telephone number where they can be reached.

Persons requesting to speak should briefly describe the nature of their interest in this rulemaking and provide a telephone number for contact. DOE requests persons selected to make an oral presentation to submit an advance copy of their statements at least two weeks before the webinar. At its discretion, DOE may permit persons who cannot supply an advance copy of their statement to participate, if those persons have made advance alternative arrangements with the Building Technologies Office. As necessary, requests to give an oral presentation should ask for such alternative arrangements.

C. Conduct of the Webinar

DOE will designate a DOE official to preside at the webinar/public meeting and may also use a professional

facilitator to aid discussion. The meeting will not be a judicial or evidentiary-type public hearing, but DOE will conduct it in accordance with section 336 of EPCA (42 U.S.C. 6306). A court reporter will be present to record the proceedings and prepare a transcript. DOE reserves the right to schedule the order of presentations and to establish the procedures governing the conduct of the webinar. There shall not be discussion of proprietary information, costs or prices, market share, or other commercial matters regulated by U.S. anti-trust laws. After the webinar and until the end of the comment period, interested parties may submit further comments on the proceedings and any aspect of the proposed determination.

The webinar will be conducted in an informal, conference style. DOE will present summaries of comments received before the webinar, allow time for prepared general statements by participants, and encourage all interested parties to share their views on issues affecting this proposed determination. Each participant will be allowed to make a general statement (within time limits determined by DOE), before the discussion of specific topics. DOE will permit, as time permits, other participants to comment briefly on any general statements.

At the end of all prepared statements on a topic, DOE will permit participants to clarify their statements briefly. Participants should be prepared to answer questions by DOE and by other participants concerning these issues. DOE representatives may also ask questions of participants concerning other matters relevant to this proposed determination. The official conducting the webinar/public meeting will accept additional comments or questions from those attending, as time permits. The presiding official will announce any further procedural rules or modification of the above procedures that may be needed for the proper conduct of the webinar.

A transcript of the webinar will be included in the docket, which can be viewed as described in the *Docket* section at the beginning of this NOPD and will be accessible on the DOE website. In addition, any person may buy a copy of the transcript from the transcribing reporter.

D. Submission of Comments

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

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

However, your contact information will be publicly viewable if you include it in the comment 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. Comments and documents submitted via email 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. No faxes will be accepted.

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

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

Confidential Business Information. 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).

E. Issues on Which DOE Seeks Comment

Although DOE welcomes comments on any aspect of this proposal, DOE is particularly interested in receiving comments and views of interested parties concerning the following issues:

1. DOE seeks comment on its determination that PCAs would not change the flow rate or spray force at DOE's test pressure.

2. DOE seeks comment on its new max-tech efficiency level for product class 1.

3. DOE seeks comment and data regarding any changes in MPC that would not be accounted for by updating the cost analysis of the previously conducted product teardowns. Specifically, DOE seeks any data that would contradict its determination of no incremental cost associated with improvements in efficiency of commercial prerinse spray valves.

4. DOE seeks comment on the markup channels, the percentage through each channel, and the baseline markup of commercial prerinse spray valves.

5. DOE seeks comment on the methods to improve DOE's energy-use analysis, as well as any supporting alternate operating hour estimates for operation of commercial prerinse spray valves. DOE seeks comment on water pressure and the end-use temperature.

6. DOE seeks comment on the product-class switching methodology used in this analysis, including any logic consumers may employ when switching as well as the portion of consumers that may switch.

7. DOE seeks comment on the approach used to analyze the possibility of some consumers exiting the CPSV market for higher flow-rate products, including any logic consumers may employ when switching as well as the portion of consumers that may switch.

8. DOE seeks comment on the use of 6.89 as a real discount rate for CPSV manufacturers.

9. DOE seeks comment on the methodology for estimating manufacturer conversion costs used in the two conversion cost scenarios (the sourced conversion cost scenario and the fabricated conversion cost scenario). Additionally, DOE seeks comment of how many manufacturers fabricate plastic nozzles in-house verses how many manufacturers out-source the production of the plastic nozzles for their commercial prerinse spray valves.

VIII. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notification of proposed determination.

Signing Authority

This document of the Department of Energy was signed on August 3, 2021, by Kelly Speakes-Backman, Principal Deputy Assistant Secretary and Acting 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 August 5, 2021.

Treena V. Garrett,

Federal Register Liaison Officer, U.S. Department of Energy.

[FR Doc. 2021–16995 Filed 8–17–21; 8:45 am]

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