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[6450-01-P]

DEPARTMENT OF ENERGY

10 CFR Parts 429 and 431

[Docket Number EERE-2014-BT-STD-0027]

RIN 1904-AD31

Energy Conservation Standards for Commercial Prerinse Spray Valves: Availability of Provisional Analysis Tools

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

ACTION: Notice of data availability (NODA); withdrawal and republication.

SUMMARY: The U.S. Department of Energy (DOE) is withdrawing and republishing the Notice of Data Availability (NODA) published in the Federal Register on November 12, 2015 (80 FR 69888) due to errors in that published document. DOE is republishing this document in its entirety. DOE published a notice of proposed rulemaking (NOPR) for the commercial prerinse spray valve (CPSV) energy conservation standards rulemaking on July 9, 2015. In response to comments on the NOPR, DOE has revised its analyses. This NODA announces the availability of those updated analyses and results, and gives interested parties an opportunity to comment on these analyses and submit additional data. The NODA analysis is publicly available on the DOE website.

DATES: DOE will accept comments, data, and information regarding this NODA submitted no later than [**INSERT DATE 14 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]. See section IV, "Public Participation," for details.

ADDRESSES: Any comments submitted must identify the NODA for Energy Conservation Standards for commercial prerinse spray valves, and provide docket number EERE-2014-BT-STD-0027 and/or regulatory information number (RIN) number 1904-AD31. Comments may be submitted using any of the following methods:

1. Federal eRulemaking Portal: www.regulations.gov. Follow the instructions for submitting comments.
2. E-mail: SprayValves2014STD0027@ee.doe.gov. Include the docket number and/or RIN 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.
3. Postal Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, Mailstop EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.
4. Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Office, 950 L'Enfant Plaza, SW., Suite 600, Washington,

DC, 20024. Telephone: (202) 586-2945. If possible, please submit all items on a CD, in which case it is not necessary to include printed copies.

No faxes will be accepted. For detailed instructions on submitting comments and additional information on the rulemaking process, see section IV of this document (“Public Participation”).

Docket: The docket, which includes Federal Register notices, public meeting attendee lists and transcripts, 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, some documents listed in the index, such as those containing information that is exempt from public disclosure, may not be publicly available.

A link to the docket webpage can be found at: www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx?ruleid=100. This webpage will contain a link to the docket for this notice on the www.regulations.gov site. The www.regulations.gov webpage will contain simple instructions on how to access all documents, including public comments, in the docket. See section IV, “Public Participation,” for further information on how to submit comments through www.regulations.gov.

FOR FURTHER INFORMATION CONTACT:

Mr. James Raba, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. Telephone: (202) 586-8654. E-mail: SprayValves2014STD0027@ee.doe.gov.

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For further information on how to submit a comment, review other public comments and the docket, or participate in the public meeting, contact Ms. Brenda Edwards at (202) 586-2945 or by email: Brenda.Edwards@ee.doe.gov.

SUPPLEMENTARY INFORMATION:

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V. Approval of the Office of the Secretary

I. Background

DOE published a notice of proposed rulemaking (NOPR) proposing amended energy conservation standards for commercial prerinse spray valves (CPSVs) on July 9, 2015 (CPSV NOPR). 80 FR 39485. The CPSV NOPR proposed new CPSV product classes based on spray force, and presented results for the engineering analysis, economic analyses, and proposed standard levels. DOE held a public meeting on July 28, 2015 to present the CPSV NOPR. At the public meeting, and during the comment period, DOE received comments on various aspects of the CPSV NOPR.

In response to these comments, DOE has revised the analyses presented in the CPSV NOPR. This notice of data availability (NODA) announces the availability of those updated analyses and results and invites interested parties to submit comments on these analyses or additional data. DOE may further revise the analysis presented in this rulemaking based on any new or updated information or data it obtains during the course of the rulemaking. DOE encourages stakeholders to provide any additional data or information that may improve the analysis.

II. Summary of the Analyses Performed by the Department of Energy

DOE conducted analyses of commercial prerinse spray valves in the following areas: (1) engineering, (2) manufacturer impacts, (3) life-cycle cost and payback period, and (4) national impacts. The spreadsheet tools used in preparing these analyses are available at: http://www.regulations.gov/#!docketDetail;D=EERE-2014-BT-STD-0027. Each individual spreadsheet includes an introduction describing the various inputs and outputs for the analysis, as well as operation instructions. A brief description of each of these analysis tools is provided below. The key aspects of the present analyses and DOE's updates to the CPSV NOPR analyses are described in the following sections.

A. Engineering Analysis

The engineering analysis establishes the relationship between the manufacturer production cost (MPC) and efficiency levels (ELs) for each product class of commercial prerinse spray valves. This relationship serves as the basis for cost-benefit calculations performed in the other three analysis tools for individual consumers, manufacturers, and the nation.

In the CPSV NOPR, DOE proposed three product classes that were delineated by spray force. DOE analyzed several ELs associated with specific flow rates for each product class. DOE received feedback from interested parties opposing the three product class structure and recommending a single product class. (Chicago Faucets, No. 26 at pp.

1-2;[1] PMI, No. 27 at p. 1; Fisher, No. 30 at p. 1; ASAP, NEEA, NRDC, No. 32 at p. 1; PG&E, SCE, SCGC, SDG&E, No. 34 at p. 1-2; AWE, No. 28 at p. 7; and T&S Brass, No. 33 at p. 2)

DOE is required by EPCA to consider performance-related features that justify different standard levels, such as features affecting customer utility, when establishing or amending energy conservation standards. 42 U.S.C. 6295(q)) In response to comments from interested parties, DOE reviewed the market for commercial prerinse spray valves and available data regarding their typical performance and usage characteristics in different applications.

DOE market research shows that commercial prerinse spray valves have a range of flow rates, spray forces, and spray shapes. For example, manufacturers market commercial prerinse spray valves at lower flow rates with specific terminology such as "ultra-low-flow" or "low-flow" spray valves, indicating that there are diverse products available to satisfy different consumer needs when selecting commercial prerinse spray valves. Conversely, for commercial prerinse spray valves at higher flow rates, DOE has predominately observed shower-type units. Shower-type units contain multiple orifices, as opposed to the more traditional, single-orifice CPSV unit. In the CPSV NOPR public meeting, T&S Brass stated that consumer satisfaction is very high at the upper range of the market flow rate distribution, and that the shower-type commercial prerinse spray

[1] A notation in this form provides a reference for information that is in DOE's rulemaking docket to amend energy conservation standards for commercial prerinse spray valves (Docket No. EERE-2014-BT-STD-0027, which is maintained at www.regulations.gov). This particular notation refers to a comment from Chicago Faucets on pp. 1-2 of document number 6 in the docket.

valves in the upper range of the market flow rate distribution represent the majority of the market and highest level of customer satisfaction because these units prevent splash-back. (T&S, No. 23 at pp. 42-43) T&S Brass also commented that there are several applications of commercial prerinse spray valves, and all may require different spray forces. (T&S Brass, No. 6 at p. 39) Based on the above information, DOE believes that the CPSV market offers a variety of prerinse spray valves that have different design features and different end-user applications.

Additionally, DOE found a strong linear relationship between spray force and flow rate, indicating that spray force is an important performance-related feature that affects consumer utility. The relationship between spray force and flow rate is presented in the engineering spreadsheet accompanying this NODA. DOE constructed the flow rate-spray force relationship using data primarily from DOE testing, and supplementary data from DOE's Compliance Certification Management System (CCMS), the U.S. Environmental Protection Agency's (EPA) WaterSense® program, and Food Service Technology Center (FSTC) reports.[2] Additionally, DOE's research shows that spray force relates to user satisfaction. A WaterSense field study found that low water pressure, or spray force, is a source of user dissatisfaction. WaterSense evaluated 14 commercial prerinse spray valve models and collected 56 consumer satisfaction reviews, of which 9 indicated unsatisfactory performance. Seven of the nine unsatisfactory reviews were

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[2] DOE compliance certification data for commercial prerinse spray valves available at www.regulations.doe.gov/certification-data/; EPA WaterSense Specification for Commercial Pre-Rinse Spray Valves Supporting Statement. Version 1.0 available at http://www.epa.gov/watersense/partners/prsv_final.html; Food Service Technology Center test data for prerinse spray valves available at www.fishnick.com/equipment/sprayvalves/

attributed, among other factors, to the water pressure, or the user-perceived force of the spray.[3] Therefore, DOE concludes that separating commercial prerinse spray valves into product classes based on spray force is justified, because spray force is a performance-related feature that affects consumer utility, and spray force is strongly correlated with flow rate.

To determine the number of product classes, DOE tested and analyzed a wide range of CPSV units on the market, spanning multiple manufacturers, flow rates, and spray shapes. Based on DOE's test data and additional market research, DOE found that available CPSV units could be differentiated into three distinct spray force ranges. DOE believes that each spray force range represents a specific CPSV application. This conclusion is supported by comments submitted by T&S Brass to the Framework document, suggesting three product classes: (1) an ultra low-flow commercial prerinse spray valve with a maximum flow rate of 0.8 gallons per minute (gpm), (2) a low-flow commercial prerinse spray valve with flow rates of 0.8 to 1.28 gpm, and (3) a standard commercial prerinse spray valve with flow rates of 1.28 to 1.6 gpm. (T&S Brass, No. 12 at p. 3) Therefore, in this NODA, DOE maintains the three product classes presented in the CPSV NOPR. However, based on feedback from interested parties, DOE renames the product classes as product class 1, 2, and 3 instead of using the terminology "light-duty", "standard-duty", and "heavy-duty," respectively. As defined, product class 1 provides distinct utility for cleaning delicate glassware and removing loose food particles from dishware, product class 2 provides distinct utility for cleaning wet foods, and product

[3] EPA WaterSense, Prerinse Spray Valves Field Study Report, at 24-25 (Mar. 31, 2011) (Available at: www.epa.gov/watersense/docs/final_epa_prsv_study_report_033111v2_508.pdf).

class 3 provides distinct utility for cleaning baked-on foods and preserving shower-type units, which prevent splash-back.

For each of the product classes, DOE determined the spray force ranges based on the CPSV flow rate-spray force linear relationship. Product class 1 includes units with spray force less than or equal to 5 ounce-force (ozf), product class 2 includes units with spray force greater than 5 ozf but less than or equal to 8 ozf, and product class 3 includes units with spray force greater than 8 ozf. DOE selected 8.0 ozf as the spray force cut-off between product class 2 and product class 3 based on test results of commercial prerinse spray valves with shower-type spray shapes. DOE testing showed that the upper range of the market, in terms of flow rate, predominantly includes shower-type units. DOE found that the lowest tested spray force of any shower-type unit was 8.1 ozf. Therefore, to maintain the consumer utility provided by shower-type units, DOE selected 8.0 ozf to differentiate product class 3 units from other commercial prerinse spray valves available on the market. Additionally, this spray force threshold is corroborated by T&S Brass's comments to the Framework document suggesting three product classes. T&S Brass suggested a flow rate cut-off of 1.28 gpm between the "low-flow" and "standard" commercial prerinse spray valves. (T&S Brass, No. 12 at p. 3) The flow rate-spray force linear relationship equates 1.28 gpm to 8.5 ozf. This spray force can be conservatively rounded to 8.0 ozf.

DOE selected 5.0 ozf as the spray force cut-off between product class 1 and product class 2 based on DOE's test data and market research, which clearly showed a cluster of CPSV units above and below that threshold. One cluster of CPSV units had spray force ranges between 4.1 and 4.8 ozf, and the other cluster was between 5.5 and 7.7 ozf. Therefore, DOE established the threshold between the two classes at 5.0 ozf. This spray force threshold is corroborated by T&S Brass's comment to the Framework document suggesting a flow rate cut-off of 0.80 gpm between the "ultra-low-flow" and "low-flow" commercial prerinse spray valves, which equates to 5.3 ozf using the flow rate-spray force linear relationship. This spray force can be conservatively rounded to 5.0 ozf.

While DOE acknowledges the comments from interested parties regarding DOE's CPSV product class structure, DOE maintains that all available data and information from manufacturers suggests that: (1) flow rate and spray force are strongly correlated, and (2) CPSV units with different flow rates or spray forces are available in the market and provide distinct consumer utility in the different applications those units are designed to serve. Therefore, in this NODA, DOE has maintained the product class structure presented in the NOPR, with three product classes differentiated by spray force.

1. Summary of Engineering Updates for the NODA

In addition to the product class structure, DOE received comments on a number of assumptions in the engineering analysis presented in the NOPR. In response, DOE conducted additional testing of CPSV units to gather more data on the range of CPSV products available in the market and updated a number of the assumptions in the NOPR engineering analysis. Specifically, DOE's revised updates include the following:

- Based on new test data, DOE updated the flow rate-spray force relationship, which is presented in the accompanying engineering spreadsheet.

- Although DOE has observed that for product classes 1 and 2 there are currently no CPSV units at the current federal standard flow rate of 1.6 gpm, DOE acknowledges that such units may exist in the market. Therefore, DOE updated the baseline flow rates for product class 1 and 2 to be the current federal standard flow rate of 1.6 gpm, consistent with the baseline for product class 3.
- Because the baseline levels for product class 1 and 2 were updated, DOE redefined EL 1 to represent the least efficient CPSV unit within each product class (i.e. the market minimum). DOE defined the market minimum levels to be the higher flow rate of either (1) the tested least-efficient unit or (2) the theoretical least-efficient unit at the intersection of the flow rate-spray force linear relationship and the spray force bounds. In product class 1, DOE identified the market minimum to be 1.00 gpm, which is a tested unit with a flow rate of 0.97 gpm, rounded-up to a whole number. This is greater than the theoretical flow rate at the intersection of the flow rate-spray force linear relationship and the spray force bound of 5.0 ozf, which is 0.75 gpm. In product class 2, DOE identified the market minimum level to be 1.20 gpm, which is the intersection of the flow rate-spray force linear relationship and the 8.0 ozf spray force bound.
- Based on new test data, DOE revised the maximum technologically-feasible levels (i.e., max-tech) from 0.65, 0.97, and 1.24 gpm to 0.62, 0.73, and 1.13 gpm for product class 1, product class 2 and product class 3, respectively.

- Based on the updates to the baseline and max-tech levels, DOE updated the intermediate flow rates for product classes 1 and 2 to reflect a 15 percent and 25 percent improvement, respectively, over the market minimum efficiency. Table II.1 through Table II.3 provide the updated ELs for all product classes.

Table II.1 Efficiency Levels for CPSV Product Class 1 (Spray Force ≤ 5 ozf)

Efficiency Level	**Description**	**Flow Rate gpm**
Baseline	Current Federal standard	1.60
Level 1	Market minimum	1.00
Level 2	15% improvement over market minimum	0.85
Level 3	25% improvement over market minimum	0.75
Level 4	Maximum technologically-feasible (max-tech)	0.62

Table II.2 Efficiency Levels for CPSV Product Class 2 (5 ozf < Spray Force ≤ 8 ozf)

Efficiency Level	**Description**	**Flow Rate gpm**
Baseline	Current Federal standard	1.60
Level 1	Market minimum	1.20
Level 2	15% improvement over market minimum	1.02
Level 3	25% improvement over market minimum	0.90
Level 4	Maximum technologically-feasible (max-tech)	0.73

Table II.3 Efficiency Levels for CPSV Product Class 3 (Spray Force > 8 ozf)

Efficiency Level	**Description**	**Flow Rate gpm**
Baseline	Current Federal standard	1.60
Level 1	10% improvement over baseline	1.44
Level 2	WaterSense level; 20% improvement over baseline	1.28
Level 3	Maximum technologically-feasible (max-tech)	1.13

B. Life-Cycle Cost and Payback Period Analysis

The life-cycle cost (LCC) and payback period (PBP) analysis determines the economic impact of potential standards on individual consumers. The LCC is the total cost of purchasing, installing and operating a commercial prerinse spray valve over the course of its lifetime. The LCC analysis compares the LCC of a commercial prerinse spray valve designed to meet possible energy conservation standards with the LCC of a commercial prerinse spray valve likely to be installed in the absence of amended standards. DOE determines LCCs by considering (1) total installed cost to the consumer (which consists of manufacturer selling price, distribution chain markups, and sales taxes), (2) the range of annual energy consumption of commercial prerinse spray valves that meet each of the ELs considered as they are used in the field, (3) the operating cost of commercial prerinse spray valves (e.g., energy and water costs), (4) CPSV lifetime, and (5) a discount rate that reflects the real consumer cost of capital and puts the LCC in present-value terms.

The PBP represents the number of years needed to recover the typically increased purchase price of higher-efficiency commercial prerinse spray valves through savings in operating costs. PBP is calculated by dividing the incremental increase in installed cost of the higher efficiency product, compared to the baseline product, by the annual savings in operating costs. In this analysis, because more efficient products do not cost more than baseline efficiency products, the PBP is zero, meaning that consumers do not have any incremental product costs to recover via lower operating costs.

For commercial prerinse spray valves, DOE performed an energy and water use analysis that calculated energy and water use of commercial prerinse spray valves at each EL within each product class identified in the engineering analysis. DOE determined the range of annual energy consumption and annual water consumption using the flow rate of each EL within each product class from the engineering analysis, the average annual operating time, and the energy required to heat a gallon of water used at the commercial prerinse spray valve. Recognizing that several inputs to the determination of consumer LCC and PBP are either variable or uncertain (e.g., annual energy consumption, product lifetime, electricity price, discount rate), DOE conducts the LCC and PBP analysis by modeling both the uncertainty and variability in the inputs using a Monte Carlo simulation and probability distributions. The primary outputs of the LCC and PBP analysis are (1) average LCCs, (2) median PBPs, and (3) the percentage of consumers that experience a net cost for each product class and EL. The average annual energy consumption derived in the LCC analysis is used as an input to the National Impact Analysis (NIA).

C. National Impact Analysis

The NIA estimates the national energy savings (NES), national water savings (NWS), and the net present value (NPV) of total consumer costs and savings expected to result from potential new standards at each trial standard level (TSL). In this NODA, DOE provides results for a total of five TSLs, one of which uses an alternative shipments scenario. TSLs 1 through 4 utilize a default shipments scenario similar to the shipments scenario presented in the NOPR, while TSL 4a utilizes the alternative shipments scenario. The default and alternative shipments scenarios are discussed later in this section.

The TSLs analyzed in this NODA are shown in Table II.4. These TSLs were chosen based on the following criteria:

- TSL 1 represents the first EL above the market minimum for each product class. That is, for product classes 1 and 2, TSL 1 represents EL 2 which is a 15 percent savings above the market minimum. For product class 3, TSL1 represents EL 1 which is a 10 percent savings above the market minimum (which is also the Federal standard level).

- TSL 2 represents the second EL above market minimum for each product class. That is, for product classes 1 and 2, TSL 2 represents EL 3 which is a 25 percent savings above the market minimum. For product class 3, TSL 3 represents the WaterSense level, or 20 percent savings above the market minimum (i.e., the Federal standard).

- TSL 3 represents the minimum flow rates for each product class that would not induce consumers to switch product classes as a result of a standard at those flow rates (as discussed in the CPSV NOPR), and retains shower-type designs. That is, DOE selected the lowest flow rates that would allow consumers to maintain provided utility without purchasing units from a different product class. As discussed in section II.A, DOE believes that spray force and flow rate are strongly correlated and that specific flow rate-spray force combinations represent distinct utility in the market. Therefore, DOE analyzed TSL 3, which exhibits no product class switching, as the TSL that maintains customer utility and availability of products in the marketplace.

- TSL 4 represents max-tech for all product classes under the default shipments scenario, which assumes the total volume of shipments does not change as a function of the standard level selected. Consumers in product classes 1 and 2 would purchase a compliant CPSV model with flow rates most similar to the flow rate they would purchase in the absence of a standard. This TSL assumes that purchasers of shower-type commercial prerinse spray valves would transition to single orifice CPSV models but recognizes that the utility or usability of compliant CPSV models in those applications may be impacted.

- TSL 4a represents max-tech for all product classes under an alternative shipments scenario. Since the utility of single-orifice CPSV models may not be equivalent in some applications that previously used shower-type CPSV, this alternative shipments scenario analyzes the case where, rather than accepting the decreased usability of a compliant CPSV model, consumers of shower-type units instead exit the CPSV market and purchase faucets, which have a maximum flow rate of 2.2 gpm under the current federal standard. Thus, shipments of compliant CPSV models are much lower under this TSL and water consumption higher due to increased faucet shipments.

Table II.4 Efficiency Levels by Product Class and TSL

TSL	Product Class 1	Product Class 2	Product Class 3	Shipments Scenario
1	2	2	1	Default
2	3	3	2	Default
3	1	1	2	Default
4	4	4	3	Default
4a	4	4	3	Alternate

The reported NIA results, in section III.B, reflect the additional testing of units DOE conducted after the NOPR (as discussed in section II.A), and include updated product allocations by product class and EL, as well as updated data sources.

DOE calculated NES, NWS, and NPV for each TSL as the difference between a no-new-standards case scenario (without amended standards) and the standards case scenario (with amended standards). Cumulative energy savings are the sum of the annual NES determined over the lifetime of commercial prerinse spray valves shipped during the analysis period. Energy savings reported include the full-fuel cycle energy savings (i.e., includes the energy needed to extract, process, and deliver primary fuel sources such as coal and natural gas, and the conversion and distribution losses of generating electricity from those fuel sources). Similarly, cumulative water savings are the sum of the annual NWS determined over the lifetime of commercial prerinse spray valves shipped during the analysis period. The NPV is the sum over time of the discounted net savings each year, which consists of the difference between total operating cost savings and any changes in total installed costs. NPV results are reported for discount rates of 3 percent and 7 percent. Under the alternative shipments scenario, DOE accounts for the energy and water use of CPSV models that remain within the scope of this rule and also accounts for the change in energy or water use for consumers that chose to exit the CPSV market, and instead purchase faucets, as a result of the standard. As a result, realized savings resulting from TSL 4a are reduced compared to savings for TSL 4 under the default shipments scenario.

To calculate the NES, NWS, and NPV, DOE projected future shipments and efficiency distributions (for each TSL) for each CPSV product class. After further research and consideration of public comments regarding product shipments (T&S, No. 23 at pp. 81), DOE updated its shipments projections from the NOPR to more accurately characterize the CPSV market. The most significant update was allocating more of the overall market share to product class 3 relative to product classes 1 and 2 in the default shipments scenario, and the modeling of an alternative shipments scenario where consumers of shower-type CPSV models do not purchase compliant CPSV models in the standards case and, instead, leave the CPSV market altogether and purchase faucets. Other inputs to the NIA include the estimated CPSV lifetime, final installed costs, and average annual energy and water consumption per unit from the LCC. For detailed NIA results, see Table III.4 and Table III.5.

D. Manufacturer Impact Analysis

For the manufacturer impact analysis (MIA), DOE used the Government Regulatory Impact Model (GRIM) to assess the economic impact of potential standards on CPSV manufacturers. DOE developed key industry average financial parameters for the GRIM using publicly available data from corporate annual reports. Additionally, DOE used this and other publicly available information to estimate and account for the aggregate industry investment in capital expenditures and research and development required to produce compliant products at each EL.

The GRIM uses this information in conjunction with inputs from other analyses including MPCs from the engineering analysis, shipments from the shipments analysis, and price trends from the NIA to model industry annual cash flows from the base year through the end of the analysis period. The primary quantitative output of this model is the industry net present value (INPV), which DOE calculates as the sum of industry cash flows discounted to the present day using industry specific weighted average costs of capital.

Standards affect INPV by requiring manufacturers to make investments in manufacturing capital and product development, and by a change in the number of shipments. Under potential standards, DOE expects that manufacturers may lose a portion of their INPV, which is calculated as the difference between INPV in the no-new-standards case and in the standards case. DOE examines a range of possible impacts on industry by modeling scenarios with various levels of investment.

III. Results of the Economic Analyses

A. Economic Impacts on Consumers

Table III.1 through Table III.3 provide LCC and PBP results for all ELs and the corresponding TSLs discussed in section II.C.

Table III.1 Product Class 1 LCC and PBP Results

Product Class 1 (Spray Force ≤ 5 ozf)						
TSL	Efficiency Level	Average Costs 2014$				Simple Payback Period years
		Installed Cost	First Year's Operating Cost	Lifetime Operating Cost	LCC*	
-	0	76	780	3,566	3,643	0.0
3	1	76	487	2,229	2,305	0.0
1	2	76	414	1,895	1,971	0.0
2	3	76	366	1,672	1,748	0.0
4,4a	4	76	302	1,382	1,458	0.0

*The average discounted LCC for each EL is calculated assuming that all purchases are for equipment only with that EL. This allows the LCCs for each EL to be compared under the same conditions.

Table III.2. Product Class 2 LCC and PBP Results

Product Class 2 (Spray Force > 5 ozf and ≤ 8 ozf)						
TSL	Efficiency Level	Average Costs 2014$				Simple Payback Period years
		Installed Cost	First Year's Operating Cost	Lifetime Operating Cost	LCC*	
-	0	76	780	3,566	3,643	0.0
3	1	76	585	2,675	2,751	0.0
1	2	76	497	2,274	2,350	0.0
2	3	76	439	2,006	2,082	0.0
4,4a	4	76	356	1,627	1,704	0.0

*The average discounted LCC for each EL is calculated assuming that all purchases are for equipment only with that EL. This allows the LCCs for each EL to be compared under the same conditions.

Table III.3. Product Class 3 LCC and PBP Results

Product Class 3 (Spray Force > 8 ozf)						
TSL	Efficiency Level	Average Costs 2014$				Simple Payback Period years
		Installed Cost	First Year's Operating Cost	Lifetime Operating Cost	LCC*	
-	0	76	780	3,566	3,643	0.0
1	1	76	702	3,210	3,286	0.0
2,3	2	76	624	2,853	2,929	0.0
4**	3	76	551	2,519	2,595	0.0

*The average discounted LCC for each EL is calculated assuming that all purchases are for equipment only with that EL. This allows the LCCs for each EL to be compared under the same conditions.
**LCC results are not presented for TSL 4a since the analysis assumes those consumers have left the CPSV market.

B. Economic Impacts on the Nation

Table III.4 provides energy and water impacts associated with each TSL. Table III.5 provides NPV results.

Table III.4 Commercial Prerinse Spray Valves: Cumulative National Energy and Water Savings for Products Shipped in 2019-2048

TSL	Product Class	National Energy Savings quads*		National Water Savings billion gal
		Primary	FFC	
1	1 (≤5 ozf)	0.008	0.009	10.831
	2 (>5 ozf and ≤8 ozf)	0.113	0.123	144.916
	3 (>8 ozf)	(0.082)	(0.089)	(105.275)
	TOTAL TSL 1	**0.039**	**0.043**	**50.471**
2	1 (≤5 ozf)	0.008	0.009	10.831
	2 (>5 ozf and ≤8 ozf)	0.244	0.264	311.926
	3 (>8 ozf)	(0.165)	(0.179)	(210.875)
	TOTAL TSL 2	**0.087**	**0.095**	**111.882**
3	1 (≤5 ozf)	0.000	0.000	0.000
	2	0.000	0.000	0.000

TSL	Product Class	National Energy Savings quads*		National Water Savings billion gal
		Primary	FFC	
	(>5 ozf and ≤8 ozf)			
	3 (>8 ozf)	0.093	0.101	119.572
	TOTAL TSL 3	**0.093**	**0.101**	**119.572**
4	1 (≤5 ozf)	0.059	0.064	75.815
	2 (>5 ozf and ≤8 ozf)	0.196	0.212	250.516
	3 (>8 ozf)	(0.092)	(0.100)	(118.272)
	TOTAL TSL 4	**0.163**	**0.176**	**208.059**
4a	1 (≤5 ozf)	0.059	0.064	75.815
	2 (>5 ozf and ≤8 ozf)	0.196	0.212	250.516
	3 (>8 ozf)	(0.463)	(0.502)	(593.418)
	TOTAL TSL 4a	**(0.208)**	**(0.226)**	**(267.087)**

*quads = quadrillion British thermal units.

Table III.5 Commercial Prerinse Spray Valves: Cumulative Net Present Value of Consumer Benefits for Products Shipped in 2019-2048

TSL	Product Class	Net Present Value billion $2014	
		7-Percent Discount Rate	3-Percent Discount Rate
1	1 (≤5 ozf)	$0.067	$0.137
	2 (>5 ozf and ≤8 ozf)	$0.892	$1.828
	3 (>8 ozf)	($0.656)	($1.342)
	TOTAL TSL 1	**$0.303**	**$0.623**
2	1 (≤5 ozf)	$0.067	$0.137
	2 (>5 ozf and ≤8 ozf)	$1.924	$3.943
	3 (>8 ozf)	($1.319)	($2.699)
	TOTAL TSL 2	**$0.672**	**$1.381**
3	1 (≤5 ozf)	$0.000	$0.000
	2 (>5 ozf and ≤8 ozf)	$0.000	$0.000
	3 (>8 ozf)	$0.718	$1.476
	TOTAL TSL 3	**$0.718**	**$1.476**

TSL	Product Class	Net Present Value billion $2014	
		7-Percent Discount Rate	3-Percent Discount Rate
4	1 (≤5 ozf)	$0.473	$0.968
	2 (>5 ozf and ≤8 ozf)	$1.539	$3.156
	3 (>8 ozf)	($0.763)	($1.557)
	TOTAL TSL 4	**$1.249**	**$2.568**
4a*	1 (≤5 ozf)	$0.473	$0.968
	2 (>5 ozf and ≤8 ozf)	$1.539	$3.156
	3 (>8 ozf)	($3.616)	($7.421)
	TOTAL TSL 4a	**($1.604)**	**($3.297)**

*In TSL 4a, DOE assumed that the installed costs for faucets and commercial prerinse spray valves are equal.

C. Economic Impacts on Manufacturers

Table III.6 provides manufacturer impacts under the sourced materials conversion cost scenario. Table III.7 provides manufacturer impacts under the fabricated materials conversion cost scenario.

Table III.6 Manufacturer Impact Analysis for Commercial Prerinse Spray Valves under the Sourced Materials Conversion Cost Scenario

	Units	No-New-Standards Case	Trial Standard Level				
			1	**2**	**3**	**4**	**4a**
INPV	2014$ MM	8.6	7.7	7.5	8.0	7.1	5.0
Change in INPV ($)	2014$ MM	-	(0.8)	(1.1)	(0.6)	(1.5)	(3.6)
Change in INPV (%)	%	-	(9.9)	(12.8)	(6.5)	(17.4)	(41.8)
Product Conversion Costs	2014$ MM	-	1.5	1.8	0.8	2.4	2.4
Capital Conversion Costs	2014$ MM	-	0.1	0.2	0.2	0.2	0.2
Total Investment Required	2014$ MM	-	1.6	2.0	1.0	2.6	2.6

Table III.7 Manufacturer Impact Analysis for Commercial Prerinse Spray Valves under the Fabricated Materials Conversion Cost Scenario

	Units	No-New-Standards Case	Trial Standard Level				
			1	**2**	**3**	**4**	**4a**
INPV	2014$ MM	8.6	7.1	6.7	7.4	6.2	4.1
Change in INPV ($)	2014$ MM	-	(1.5)	(1.8)	(1.1)	(2.4)	(4.5)
Change in INPV (%)	%	-	(17.5)	(21.4)	(13.1)	(28.0)	(52.3)
Product Conversion Costs	2014$ MM	-	1.5	1.8	0.8	2.4	2.4
Capital Conversion Costs	2014$ MM	-	0.8	1.0	0.8	1.2	1.2
Total Investment Required	2014$ MM	-	2.3	2.8	1.6	3.6	3.6

IV. Public Participation

While DOE is not requesting comments on specific portions of the analysis, DOE is interested in receiving comments on all aspects of the data and analysis presented in the NODA and supporting documentation that can be found at: https://www1.eere.energy.gov/buildings/appliance_standards/product.aspx/productid/54.

A. Submission of Comments

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

Submitting comments via www.regulations.gov. The www.regulations.gov webpage will require you to provide your name and contact information. Your contact information will only be viewable to DOE Building Technologies staff. 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.

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

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

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

Campaign form letters. Please submit campaign form letters by the originating organization in batches of between 50 and 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 two well-marked copies: one copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

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

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

V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notice of data availability.

Issued in Washington, DC, on November 16, 2015.

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Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

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