Building Technologies Program

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy





NOPR Public Meeting For Plumbing Products Test Procedures

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Welcome and Introductions

- Meeting Agenda
- Introductions
- Role of the Facilitator
- Ground Rules
  - Listen as an ally
  - Focus on issues
  - Use short, succinct statements/keep to the point
  - One person speaks at a time (raise hand to be recognized; state your name for the record)
  - Hold sidebar conversations outside the room
  - Set cell phones to silent/vibrate
- Housekeeping Items

Attending Parties Opening Statements

At this time DOE welcomes opening remarks/statements on the notice of proposed rulemaking (NOPR) on test procedures for showerheads, faucets, water closets, urinals, and commercial prerinse spray valves.

Public Meeting Slides Topics

1. Introduction
2. Regulatory History
3. Scope
4. Rulemaking Overview
5. Test Procedure
6. Notice of Proposed Rulemaking (NOPR) Analyses
7. Closing Remarks, Contacts & Information

Meeting Purpose

- Present proposed amendments to the DOE test procedures for showerheads, faucets, water closets, urinals, and commercial prerinse spray valves.
- Provide a forum for public discussion of rulemaking issues.
- Encourage interested parties to submit data, information, and written comments.
- Inform interested parties and facilitate the rulemaking process.

Request for Comment Format

Issue Box In the NOPR for test procedures for showerheads, faucets, water closets, urinals, and commercial prerinse spray valves, DOE welcomes comments on particular issues raised in a text box like this. Throughout this presentation, specific issues will be raised for discussion on slides such as this, ***with identifying numbers corresponding to those in the NOPR document***. Nonetheless, comments concerning any part of the document or presentation are welcome.

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Water Conservation Standards and Test Procedures for Plumbing Products

- The Energy Policy and Conservation Act (EPCA) of 1975 (Public Law 94-163) established the energy conservation program.
- The amendments to EPCA in the Energy Policy Act of 1992 (Public Law 102-486) established water conservation standards for showerheads, faucets, water closets, and urinals and established the test procedures as:
  - ASME/ANSI A112.18.1M-1989 for faucets and showerheads
  - ASME/ANSI A112.19.6-1990 for water closets and urinals

Water Conservation Standards and Test Procedures for Plumbing Products

- These procedures were subsequently revised by ASME, which led DOE to commence a rulemaking to update its procedures, as required by EPCA, as amended.
- In a March 18, 1998 final rule (63 FR 13308), DOE incorporated the currently referenced versions into the Code of Federal Regulations:
  - ASME/ANSI A112.18.1M-1996 for faucets and showerheads
  - ASME/ANSI A112.19.6-1995 for water closets and urinals
- This rule did not change the relevant water conservation standards.

Standards and Test Procedures for Commercial Prerinse Spray Valves

- The Energy Policy Act of 2005 amended EPCA to establish a uniform national water conservation standard for commercial prerinse spray valves, and established the test procedure as ASTM Standard F2324 (42 U.S.C. 6293(b)(14)).
- DOE incorporated the 2003 version of this standard into the Code of Federal Regulations in a final rule published December 8, 2006 (71 FR 71340).
- Since the 2006 final rule, ASTM has reissued the F2324 standard without any substantive changes.

Updates to Plumbing Standards Since DOE's Last Rulemakings

- If ASME revises the test procedures for showerheads, faucets, water closets, or urinals, EPCA requires DOE to conduct a rulemaking to evaluate adoption of the revised versions. (42 U.S.C. 6293(b)(7)(B) and 42 U.S.C. 6293(b)(8)(B))
- Because ASME has made such revisions, DOE is proposing to incorporate by reference ASME/ANSI A112.18.1-2011 as the test procedure for showerheads and faucets, and ASME/ANSI A112.19.2-2008 for water closets and urinals.
- As there has been no substantive update to the test procedure for commercial prerinse spray valves (ASTM F2324-03), DOE is proposing to retain the existing procedure with no changes and incorporate by reference the reapproved version.

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NOPR Scope

- Review of existing DOE test procedures
- Comparison to current ASME test procedures
- Product definitions
- Design requirement – retention of showerhead flow control insert
- Basic model definition
- Regulatory review

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Rulemaking Process Steps

- DOE published the NOPR in a Federal Register notice on **May 30, 2012** (77 FR 31742).
- Today's public meeting covers the proposals set forth in the NOPR – specifically, the adoption of revised ASME test procedures for showerheads, faucets, water closets, and urinals and ASTM test procedure for prerinse spray valves.
- The NOPR provides avenues for interested parties to submit comments. Comments must be submitted to DOE by **August 13, 2012.**
- The NOPR information and materials are available online at:

http://www1.eere.energy.gov/buildings/appliance_standards/residential/plumbing_products.html

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Proposed Changes to Faucet Test Procedure

A112.18.1-1996

- No specification for test pressure tolerance
- Test procedure temperature range 4 to 66 ˚C
- No specification for type of container used to collect water in the test procedure

A112-18.1-2011

- Test pressure tolerance to be within ± 1 psi
- Test procedure temperature range 5 to 71 ˚C
- Use of container large enough to hold water collected over a minimum of 1 minute when using the time/volume test procedure

Proposed Changes to Showerhead Test Procedure

A112.18.1-1996

- No specification for test pressure tolerance
- Test procedure temperature range 4 to 66 ˚C
- No specification for duration of flow
- No specification for type of container used to collect water in the test procedure

A112.18.1-2011

- Test pressure tolerance be within ± 2 psi
- Test procedure temperature range 32 to 44 ˚C
- Flow to be maintained for at least 1 minute
- Use of container large enough to hold water collected over a minimum of 1 minute when using the time/volume test procedure

Request for Comments

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Item 1 – DOE requests comment on its proposal to incorporate by reference ASME/ANSI Standard A112.18.1-2011 for faucets and showerheads, and specifically, the impact of the changes outlined in the previous slides.

Proposed Changes to Water Closet Test Procedure

A112.19.6-1995

- No filter required in apparatus setup
- Receiving vessel calibration of 0.10 gallons (0.4 liters)
- No specification of timing device; no requirement for length of time that actuator is activated

A112-19.2-2008

- Filter required in the apparatus setup
- Receiving vessel calibration of 0.07 gallons (0.25 liters)
- Requires use of an electric timer with increments of no more than 0.1 seconds to verify the actuator is held for a maximum of 1 second

ASME/ANSI Standard A112.19.6/.2 Water Closets and Urinals - Continued

A112.19.6-1995

- Static pressure requirements for a flushometer valve with siphonic bowl are 80, 50, and 15 psi and with blowout bowl are 80, 50, and 35 psi
- No specification for rounding total flush volume

A112.19.2-2008

- Static pressure requirements for a flushometer valve with siphonic bowl are 80, 35, and 35 psi and with blowout bowl are 80, 45, and 45 psi
- Rounding of the total flush volume down to the nearest 0.07 gallons (0.25 liters)

Item 2 – DOE requests comment on its proposal to incorporate by reference ASME/ANSI Standard A112.19.2-2008 for water closets and urinals, and specifically, the impact of the changes outlined.

ASME/ANSI Standard A112.19.2 Dual-Flush Water Closets

- Propose to require that dual-flush water closets be tested according to ASME/ANSI Standard A112.19.2-2008 to determine maximum flush volume in full flush mode.
- Propose to measure the water consumption of dual-flush water closets over a representative average period of use to reflect other testing and reporting metrics.*
- Propose to measure flush volume of full and reduced flushes per Section 7.4 of A112.19.2-2008 and calculate the average representative water use (2 reduced, 1 full).
- Water consumption reported to DOE would still be the maximum measured value.

*EPA WaterSense allows water consumption of dual-flush water closets to be represented as a weighted average of flush volumes (assumes 2/3 of all flushes are reduced flow).

ASME/ANSI Standard A112.19.2 Dual-Flush Water Closets - Continued

Item 3 – DOE requests comment on its proposal to develop a test procedure to measure the average representative water use of dual-flush water closets, and specifically, whether the use of a composite average is representative of water use and whether the 2:1 ratio of reduced flushes to full flushes is appropriate.

ASTM Standard F2324-03 Prerinse Spray Valves

- Propose to retain existing test procedure and incorporate by reference ASTM F2324-03 (2009), which is the most recent version of the ASTM Standard F2324 and includes no substantive changes.

Item 4 – DOE requests comment on its proposal to incorporate by reference ASTM Standard F2324 for prerinse spray valves, particularly with respect to representativeness of measurements and test burden.

Proposed amendments to requirements for flow restrictors

- Retain design requirement that showerhead flow control insert be mechanically retained at point of manufacture when subjected to 8 lb force (36 newtons) as described in section 4.11.1 of the 2011 ASME Standard.
- Propose to maintain 8 lb force metric as the primary standard metric, with the 36 newton metric as a secondary metric.
- Incorporate the text of the requirement directly into the CFR rather than a reference to the ASME Standard.

Item 5 – DOE requests comment on the prospective methods for verifying that the 8 lb force requirement has been met and information on showerhead designs that complicate verification or make it unnecessary.

Proposed definitions to be added to 10 CFR 430.2

- Accessory means, with respect to plumbing fittings, a component that can, at the discretion of the user, be readily added, removed, or replaced and that, when removed will not prevent the fitting from fulfilling its primary function.
- Body spray means a shower device for spraying water onto a bather from other than the overhead position.
- Dual-flush water closet means a water closet incorporating a feature that allows the user to flush the water closet with either a reduced or a full volume of water.
- Fitting means a device that controls and guides the flow of water.
- Hand-held showerhead means a showerhead that can be fixed in place or used as a moveable accessory for directing water onto a bather.

Amended Definition of Showerhead

Proposed Modification in 10 CFR 430.2

Showerhead means an accessory, or set of accessories, to a supply fitting distributed in commerce for attachment to a single supply fitting, for spraying water onto a bather, typically from an overhead position, including body sprays and hand-held showerheads, but excluding safety shower showerheads.

Item 6 – DOE requests comment on its proposed definitions of the terms "accessory," "body spray," "fitting," "hand-held showerhead," and "dual-flush water closet" and its proposed amendment to the existing definition of the term "showerhead."

Basic Model Definition

- No proposed changes to definition of a basic model
- For water closets and urinals, basic models should be grouped by maximum flush volume of bowl and valve/tank combinations for the purpose of reporting rated flush volumes

Item 7 – DOE requests comment on the current definition of a basic model of water closet and urinal, and any changes that might be necessary to clarify the appropriate means by which to group various combinations of water closet and urinal bowls and flushing devices.

Certification

- DOE is not proposing to change the statistical sampling plans and reporting requirements applicable to certification reports for all five products.
- DOE is proposing to add rounding requirements for the final value of water consumption that is calculated for the tested sample and reported in certifications.

Item 8 - DOE requests comment on all elements of the provisions for the calculation of test results, including the confidence limits; revisions to the sampling plans that might better reflect the level of precision that is achievable for each respective test; and variability in measured water consumption that is expected for each respective product.

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Review Under the Regulatory Flexibility Act

DOE must determine whether the rule would result in a significant impact on a substantial number of small entities.

- DOE used the Small Business Administration (SBA) definition of small entities:
  - Plumbing equipment manufacturers are included in NAICS 332913, "Plumbing Fixture Fitting and Trim Manufacturing," and NAICS 327111, "Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing."
  - The SBA standard for small entities in these industry descriptions are 500 employees or less for NAICS 332913, and 750 employees or less for NAICS 327111.
- DOE identified 48 manufacturers of showerheads, faucets, water closets, urinals, and commercial prerinse spray valves that qualify as small businesses.

Significance of Impact on Small Businesses

- DOE has determined the changes proposed in the NOPR will not alter current test procedures, calculation methodologies or enforcement for the covered products.

- DOE has determined that the proposed test procedure amendments would not have a "significant economic impact on a substantial number of small entities," and the preparation of a regulatory flexibility analysis is not warranted.

Item 9 - DOE seeks comment on its reasoning that the proposed test procedure changes would not have a significant impact on a substantial number of small entities.

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Plumbing Products Test Procedures Comment Submittal Information

Please reference all correspondence for this action with the following information:

- Plumbing Products Test Procedures Rulemaking
- Docket Number **EERE-2011-BT-TP-0061**
- Regulatory Identification Number (RIN) **1904-AC65**

Email: **PlumbingPrds-2011-TP-0061@ee.doe.gov**

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Comment period ends: August 13, 2012

Plumbing Products Test Procedures WebPages and DOE Contacts

- **DOE Appliance Standards**
  - **http://www1.eere.energy.gov/buildings/appliance_standards/**
- **Plumbing Products Test Procedures Rulemaking**
  - **http://www1.eere.energy.gov/buildings/appliance_standards/residential/plumbing_products.html**
- **Contact Lucas Adin, Project Manager, from the Appliance Standards Program for additional information:**
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