# Natural Resources Defense Council
# Appliance Standards Awareness Project

June 7, 2013

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Program
1000 Independence Avenue, SW
Mailstop EE-2J
Washington, DC 20585

**RE: Docket No. EERE-2011-BT-TP-0061 / RIN 1904-AC65: Test Procedures for Showerheads, Faucets, Water Closets, Urinals, and Commercial Prerinse Spray Valves**

Dear Ms. Edwards,

This letter constitutes the comments of the Natural Resources Defense Council (NRDC) and the Appliance Standards Awareness Project in response to the Department of Energy (DOE) supplemental notice of proposed rulemaking (SNOPR) regarding test procedures for showerheads, faucets, water closets, urinals, and commercial prerinse spray valves. 78 Fed. Reg. 20832. We appreciate the opportunity to provide input to this process.

1. Definitions of showerhead, body spray, and hand-held shower

We regret that the Department has reversed the decision presented in the original NOPR to clarify that body sprays fall under the definition of showerheads for purposes of regulatory coverage. In the SNOPR, the Department rightfully notes several shortcomings in ASME terms and provided some measure of improved clarity in the newly proposed definitions.[1] However, excluding subcategories of shower spray emitters from coverage will continue to invite novel configuration and placement of such devices for purposes of evading efficiency standards and seeking marketing advantages, whether real or imagined. The key objective of new or revised definitions should be to bring clarity to the coverage of shower products under EPCA. We specifically support the treatment of body sprays as showerheads for the purposes of regulatory coverage. This issue will undoubtedly need to be revisited in the near future.

2. Test procedure requirements for showerhead flow control insert retention

We welcome the development by the Department of a simple test procedure for determining the retention force of showerhead flow control inserts. The retention requirement is as much a part of the federal standard as the maximum flow rate, and the Department has the responsibility to

[1] The Department's explanation of its latest proposal is unnecessarily muddled by the inconsistent and ambiguous use of the term "fitting," as when it characterizes the threaded overhead pipe in a shower as a "fitting" rather than an outlet.

ensure that compliance with the standard can be verified. We have two remaining concerns with the retention force test as presented. First, in section II(A)(2)(c) of the SNOPR (78 Fed. Reg. 20836), DOE has included the following parenthetic expression –

> (if a clamp or other grasping device that would enable physical removal of the flow control insert cannot be attached, then the showerhead meets the design requirement and no further testing would be necessary)

Although this language does not appear in the actual text of the test procedure proposed for inclusion in the CFR (78 Fed. Reg. 20841), this parenthetic language injects an unnecessary loophole into an otherwise clearly stated procedure. In fact, the inability to attach a "clamp" or other "grasping device" to a flow control insert does not assure that the insert cannot be easily removed (with a force of less than 8 lbs.) by using a toggle-type devise with collapsing wings inserted through the hole of the insert. The language of the test procedure should be modified to allow for either "attaching" a clamp or grasping device to the insert or "positioning" a toggle-type device through the insert, making the test procedure more versatile and the loophole unnecessary.

Secondly, without explanation, DOE proposes that the test would not be required for certification of a basic model under 10 CFR 429.12 (78 Fed. Reg. 20836 and 20841), but rather would be used to "verify compliance" with the standard, presumably after products have been introduced into commerce. Because the retention requirement is clearly part of the standard, and DOE's own research has shown that non-conforming products are readily available in the market (78 Fed. Reg. 20836), the test procedure should be required to certify that basic models of showerheads comply with the standard when introduced into commerce, rather than during after-the-fact enforcement action, which may be less than thorough over time.

3. Test procedure amendment for supply fittings with integral body sprays

We recommend against the proposal to include instructions in the test procedure for a single fitting that consists of a showerhead-body spray combination to turn off the body spray. This approach will yield test results that are not indicative of the water consumption of the fitting in actual practice, and illustrates the mistaken course proposed by the Department to exclude body sprays from the definition of showerhead, as noted above.

4. Trim adjustments for gravity flush tank water closets

We continue to believe that field adjustability is a significant cause of excessive water consumption by nominally compliant tank-type water closets at the point of use.[2] The US EPA WaterSense specification for tank-type toilets incorporates specific language on field adjustability, and limits the effects of adjustability to 0.4 gallons per flush in additional consumption. With nearly 1,685 models of gravity tank-type toilets certified to the WaterSense specification as of June 2013, it is clear that the industry has adapted to this approach. Although the specific allowance of 0.4 gpf used by WaterSense should be examined further by DOE before

[2] DeOreo et al, California Single-Family Water Use Efficiency Study, Aquacraft Water Engineering and Management, 2011, pp. 151-152.

incorporation into the federal test procedure, the frame developed by WaterSense is one that the Department should consider in this rule-making.

5. Static pressures for testing of flushometer valve siphonic and blowout water closets

We commend the Department for proposing to eliminate the 2 to 1 ratio for averaging water consumption of flushometer valve water closets tested at high pressure (80 psi) and low pressure (35 psi). However, although water pressure of up to 80 psi is considered within the normal range by water utilities, many communities receive water at average system pressures that are considerably higher, and many commercial high-rise buildings have pressure booster pumps. To ensure that test reporting does not obscure the level of water efficiency that many building owners will actually experience, DOE's test procedure should require reporting of the higher water consumption value obtained by the average of three tests at 80 psi and the average of three tests at 35 psi. At a minimum, these values should be reported separately even if averaging is permitted to demonstrate compliance.

6. Testing and reporting of dual-flush water closets

Dual-flush units will continue to make an important contribution to the market in the years ahead. The inability to make representations about average water use in the absence of a federal test procedure may present an impediment to their marketing. We recommend that DOE prepare to propose a revised test method applicable to these products in a future rulemaking.

7. The definition of basic model with respect to water closets and urinals

The Department's proposed revisions to the compliance certification framework for flushometer-based water closets and urinals remains deeply flawed. Under 10 CFR 429.12(a), --

> Each manufacturer, before distributing in commerce any basic model of a covered product or covered equipment subject to an applicable energy conservation standard set forth in parts 430 or 431, and annually thereafter on or before the dates provided in paragraph (d) of this section, shall submit a certification report to DOE certifying that each basic model meets the applicable energy conservation standard(s).

Although the requirement to list the make and model of the flushometer valve with which a water closet bowl or urinal body was tested is a small step forward, the proposal fails to require that the valve actually shipped with that water closet bowl or urinal body be tested and certified, nor is there a way of establishing the representative nature of the valve used in the test since other valves are not subject to federally recognized testing and certification. Moreover, the proposal fails to account for several key attributes of these two product categories –

- The product category, as defined, for flushometer-based water closets and urinals must be deemed to encompass both the bowl or body and the valve, because neither considered alone would meet the definition of a water closet or urinal.

- Flushometer valves for water closets and urinals are commonly shipped from the manufacturer separately from a water closet bowl or urinal body.
- Flushometer water closet bowls and urinal bodies are commonly shipped from the manufacturer without a valve.
- For flushometer products, the flush volume test in ASME A 112.19.2-2008 is essentially a test of the valve, rather than the bowl. Bowl design has little influence on the amount of water released by a flushometer valve (albeit bowl design has significant influence on performance in other ASME tests not covered by the DOE standard).

In light of these realities, the Department needs to reconsider its overly broad interpretation that flushometer valves shipped separately are not deemed to be covered products. 78 Fed. Reg. 20,838. Based on the Department's definition, as well as common sense, a flushometer-type water closet or urinal consists of the combination of a bowl or body and a flushometer valve. The Department's proposal provides for certification of each basic model of bowl, with a flushometer valve attached, but appears to allow for the sale of the bowl with a different flushometer valve. The Department must require that substitute flushometers also be certified. In other words, any additional bowl/valve combination should either be certified as its own model or the flushometer valve must have also been tested and certified in some other way. We recognize that certification of every possible bowl and valve pairing could be burdensome. To avoid this burden, we recommend that the Department allow a flushometer valve to be substituted if it had been used in the certification of a different bowl or if the manufacturer of that valve had itself submitted a certification to the Department. The Department might also allow certification of a basic model of flushometer valve in order to avoid the need to certify individual valves that are essentially identical. The Department could facilitate the use of compliant valves by maintaining a list of certified flushometer valves. We believe that it is critical for the Department to make sure that each model of flushometer valve used as part of a new water closet or urinal has been certified because it is the flushometer valve – not the bowl – that primarily controls water use.[3]

To facilitate this improved framework, it may be useful for DOE to consider extending the current definition of "tested combination" in 10 CFR 430.2 to include language and procedures specific to water closets and urinals and their associated flushing devices. Concepts currently applying to testing separate air conditioning components may prove useful in devising a clearer framework for certifying fixture and valve combinations.

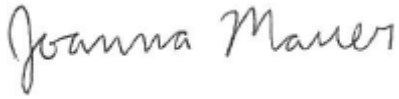
Finally, the Department should collect information on the model of flushometer valve most likely (i.e., the highest-selling separately sold valve) to be installed with a separately sold water closet or urinal bowl and should determine the water usage of that valve. This information is critical to determine whether the statute's standards are being evaded through the separate sale of bowls and valves.

[3] In a previous rulemaking revising the definition of "basic model," the Department stated that it "continues to review the bases for more precise, product-specific limitations on which models can be grouped together as a basic model." 76 Fed. Reg. 12429 (March 7, 2011). In line with the Department's objective of refining this definition, we believe the separate shipment of flushometer valves and water closet bowls/urinal bodies enables the avoidance of certification that should apply to ultimate bowl/body-valve pairings and warrants revision to the definition of "basic model."

Thank you very much for considering these comments.

Sincerely,

Edward R. Osann
Senior Policy Analyst
Natural Resources Defense Council



Joanna Mauer
Technical Advocacy Coordinator
Appliance Standards Awareness Project

Questions about or responses to this letter may be directed to Edward R. Osann, Natural Resources Defense Council, 1314 Second Street, Santa Monica, CA 90401; 310-434-2300; eosann@nrdc.org.