



Energy Conservation Program for
Consumer Products and Commercial
and Industrial Equipment

DOE Certification,
Compliance, and
Enforcement Overview for
Plumbing Products
April 17, 2014

- 1 Authority, Coverage, and Definitions**
- 2 Importation**
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- Energy Policy and Conservation Act of 1975 ("EPCA")
 - Title III created energy conservation program for consumer products
 - Codified at 42 U.S.C. § 6291, *et. seq.*
- Energy Policy Act of 1992 ("EPACT 1992")
 - Expanded coverage to include plumbing products
- Energy Policy Act of 2005 ("EPACT 2005")
 - Expanded coverage to include commercial prerinse spray valves

Scope of Coverage

Regulated Plumbing Products

- Water closets
- Urinals
- Showerheads
- Faucets
 - includes lavatory and kitchen faucets
- Commercial prerinse spray valves

Regulated Entities

- Manufacturers
 - Importers are considered manufacturers
- Private labelers
- NOT retailers or distributors UNLESS also manufacturer or private labeler

“Manufacturer” Explanation

A manufacturer

- Is the domestic manufacturer, an importer, or a foreign original equipment manufacturer (OEM).
- May produce equipment at multiple facilities in various locations with the same model characteristics.
- Must determine certified ratings through testing.
- Is responsible for ensuring compliance of products.
- Is responsible for certification of products' compliance to the Department.
- May elect to use a third-party (e.g., certified laboratory or foreign OEM) for testing and certification submission.

An importer

- Is considered a manufacturer.
- Is the importer of record on a consumption entry filed with U.S. Customs.
- May be a retailer, distributor, manufacturer of non-covered equipment, etc.
- Is responsible for ensuring compliance of products.
- Is responsible for certification of compliance to DOE.
- Can use a third-party for product testing and certification submission.
 - Must complete proper authorization forms.

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- Customs and Border Protection has the authority to refuse admission into the customs territory of the United States to any covered import found to be noncompliant with applicable water conservation standards.
- To ensure products imported are compliant, importers of covered plumbing products should be aware of and follow DOE regulations regarding testing and certifying these products as compliant.
- Independent of CBP's refusal of admission, DOE has authority to take enforcement actions against importers that import noncompliant products.

Importers **are** responsible for
ensuring compliance of covered
products they import!

- Manufacturers A, B, C, D, and E are foreign OEMs that make water closets abroad, and WeBuyEm imports the water closets under a WeBuyEm brand name and model number to the United States. Who is responsible for ensuring these water closets meet the water consumption standard?

WeBuyEm is responsible for ensuring the water closets comply with the applicable standards and for submitting the required certification reports to DOE.

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...a sample of sufficient size...

Must test at least two individual units of each basic model.

- **Basic model** is a group of one or more individual models with essentially identical water consumption characteristics.
- **Must** be manufactured by a single manufacturer.
- **May** be distributed under different brand names.
- **May** contain multiple individual models/model numbers.
- **May** be made up of only one individual model.
- **Must** have a unique set of supporting test data.
 - One set of data cannot demonstrate the compliance of multiple basic models. The certification of a given basic model cannot be based upon the test of a different basic model.

- For *faucets* and *showerheads*: **if** have the identical flow control mechanism installed within the fitting or the identical water-passage features that use the same path of water in the highest-flow mode, **can** be considered same basic model.
- For *water closets*, *urinals*, and *commercial prerinse spray valves*: **if** have hydraulic characteristics that are essentially identical and do not have any differing physical or functional characteristics that affect water consumption, **can** be considered same basic model.
- **May not** contain individual models from multiple product classes. (For example, a flushometer tank type water closet and flushometer valve (non-blowout) water closet cannot be the same basic model.)
- **Must** have one rated value of water consumption for all models within the basic model.

Basic Model: Aspects to Consider

| | Grouping Maximum Possible Number of Individual Models into Each Basic Model | Testing Each Individual Model and Certifying Each as a Separate Basic Model |
|----------------------|--|--|
| Advantages | Minimum testing burden | Reduces compliance risk and potential liability for noncompliance |
| Disadvantages | Higher risk if found noncompliant: if an individual model fails to meet water conservation standard, all individual models within the basic model are deemed noncompliant. Thus the more models grouped in the basic model, the larger the risk associated with a compliance failure. | Higher testing burden |

- Manufacturer Awesome Products does not want to test two samples of each of individual water closet models D, E, and F. Can Awesome Products rely upon the test data of one of these models for the others?

Yes, if D, E, and F have essentially identical water consumption and are in the same product class. Awesome Products would test at least two units of the most consumptive design (if there is any variability) and submit a certification report stating that D, E, and F are the same basic model and have the same water consumption value.

- If testing later shows that F does not meet the standard, which models will DOE determine are noncompliant?

Models D, E, and F will be found to be noncompliant because they are part of the same basic model.

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- Manufacturer MakeThem buys showerhead components from Component Supplier and assembles them in the United States into showerheads. Can MakeThem use Component Supplier's spec sheets to rate its showerheads?

No, MakeThem must rely upon actual test data from a sample of production units (or units representative of production units) to determine their rating.

1. For each basic model, test a sufficient number of sample units to ensure that the represented value of water consumption adequately represents performance of all of the units within the basic model.
 - Must test a minimum of two units.
 - No limit on the maximum number of sample units.
 - Must use DOE test procedure.
2. Once testing is complete, calculate water consumption rating based upon DOE statistical sampling provisions in 10 C.F.R. Part 429, Subpart B.

DOE test procedures have incorporated relevant industry standards

| Product(s) | Procedures |
|----------------------------------|--|
| Showerheads and Faucets | Section 5.4 (flow rate test) of ASME A112.18.1-2012 (as explained in Part 430, Subpart B, Appendix S) |
| Water Closets and Urinals | Subsections 7.1.1-.5 and 8.2.1-.3, and Sections 7.4 and 8.6 of ASME A112.19.2-2008 (as explained in Part 430, Subpart B, Appendix T) |
| Commercial Prerinse Spray Valves | See 10 C.F.R. § 431.264 for the specific provisions of ASTM F2324-03 incorporated by DOE |

Who tests the product?

- Manufacturers can either:
 - perform testing themselves, or
 - ask a third-party to complete testing for them.
- Importers often ask the foreign OEM to complete testing.
- DOE does not require that test laboratories have a particular accreditation to test these products, but they must use the prescribed DOE test procedure.

- BuyThem imports showerheads from SHSupplier and sells them in the United States. Can BuyThem use SHSupplier's test data to rate its showerheads?

Yes, BuyThem may use SHSupplier's data as a basis for its rating as long as the tests were conducted in accordance with DOE test procedures.

1. Consult the appropriate product-specific section in Part 429 (e.g., 10 C.F.R. § 429.28 for faucets).
2. Calculate the mean water consumption from test samples.
3. Calculate the upper confidence limit (UCL) and divide it by the product-specific divisor.
4. Compare and determine certifiable value range.

1. Consult the appropriate product-specific section in Part 429

Example: 10 C.F.R. § 429.28 states that, for faucets, any represented value of water consumption of a basic model ... shall be no less than the higher of:

(i) The mean of the sample, where:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

and, \bar{x} is the sample mean; n is the number of samples; and x_i is the i^{th} sample;

Or, (ii) The upper 95 percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{0.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

2. Calculate the mean using your test data

Example: tested 3 kitchen faucets, with results of 1.6, 1.8 and 2.0 gpm.

$$\text{Mean} = \frac{1.6 + 1.8 + 2.0}{3} = 1.8 \text{ gpm.}$$

3. Calculate the upper confidence limit (UCL) divided by the product-specific divisor.

Example: tested 3 kitchen faucets, with results of 1.6, 1.8 and 2.0 gpm

$$UCL = \bar{x} + t_{0.95} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.95}$ is the t statistic for a 95% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

The t-statistic for a 95% one-tailed confidence interval with (n-1) (here, 3-1 = 2) degrees of freedom is 2.920.

- pulled from chart in Appendix A to Subpart B of 10 C.F.R. Part 429

The square root of n is 1.732.

The standard deviation (s) is 0.2.

So: the UCL = 2.137

And UCL/1.05 = 2.035

4. Compare and determine certifiable value range.

Example: tested 3 kitchen faucets, with results of 1.6, 1.8 and 2.0 gpm

Mean = 1.8 gpm

UCL/1.05 = 2.035 gpm

The minimum rating is the **higher** of UCL/1.05 and mean.

In this case, **2.035 > 1.8**, so the UCL/1.05 is the basis for the rating.

Conclusions:

- The data was all ≤ 2 gpm, but **2.0 gpm** is the **lowest** value at which you can certify based on these test results (after rounding the UCL/1.05 to one decimal place).
- The **highest value** you could certify is **2.2 gpm** (the standard from § 430.32(o)).
- Thus based on this data, you could certify at 2.0, 2.1, or 2.2.

- The sampling plans are designed to create conservative ratings, which helps ensure that most consumers get the consumption indicated by the certified rating.
- DOE allows manufacturers to use conservative ratings beyond those provided by the sampling plans. For example, 2.1 gpm is more consumptive than UCL/1.05 of 2.035 gpm.
- Manufacturers may rate models conservatively. For example, for a faucet flow of 1.9 gpm supported by test data, you may use a rated value of up to 2.2 gpm (the water consumption standard).
- A conservative rating is not a misrepresentation.

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- Energy conservation standards regulatory program based on self-certification before distribution (including importation)
 - Submit annually
 - Also submit before distributing any new basic model in commerce
 - Update to reflect discontinuance
- **Manufacturers** must submit a certification report
 - Report states that covered product has been tested in accordance with the DOE test procedure and that the product complies with the federal water conservation standards
- Remember: Importers are considered manufacturers!
- Private labelers need not certify unless they are importers

Certification Requirements: Basics (cont.)

- Reporting to other regulatory or voluntary programs (e.g., the WaterSense[®] program) does **NOT** satisfy the DOE certification requirement.
- Even if you have reported models to the EPA for WaterSense[®] qualification or have reported them to another program or agency, you still must certify to DOE that the products you distribute in commerce meet the applicable federal standard.
- Water consumption rating reported to DOE must be the same maximum water consumption that is reported to other agencies and placed on product packaging and marketing literature.

Certification Requirements: Basics (cont.)

- Product specific information within report
 - DOE provides template
 - Must report rated value as previously described
 - Must report specific product characteristics
 - Must certify in legally binding statement that products have been tested and meet standard
- Must register for access to Compliance Certification Management System (CCMS) using form available online
 - Follow instructions on form to obtain username and password.
- Only electronic submissions accepted.
- Once registered, submit completed templates through CCMS.
- Models added to DOE public certification database within two weeks:
<http://www.regulations.doe.gov/certification-data>

- Annual certification requirement
 - Faucets, showerheads, water closets, and urinals: March 1st
 - Commercial prerinse spray valves: June 1st
- The annual reporting requirement covers:
 - All discontinued basic models previously certified that have not previously been reported as discontinued (mark “D”);
 - All previously certified basic models that are still in distribution in commerce that are unchanged (mark “E”);
 - All previously certified basic models that are still in distribution in commerce but for which the manufacturer needs to report new or changed information (mark “C”) (e.g., new individual model numbers, modified rating); and
 - Any new models a manufacturer anticipates offering for distribution in commerce (mark “N”).
- No additional certification testing required for annual submission.
- During the year, recertify if the redesign of an existing model increases water consumption resulting in re-rating.

- Manufacturers are required to certify each individual model with each brand name under which it is sold.
- DOE does not publish manufacturer/brand name relationship.
- Public database lists models by brand name, **not** manufacturer.

- Ton-o-Brands makes faucets abroad under various brand names and imports them to the United States. Some individual faucet models have multiple brand names. How should Ton-o-Brands certify these models?

Ton-o-Brands must list each brand name for each individual model.

| Manufacturer | Brand | Basic Model | Indiv. Model | Sample Size | Water Use |
|--------------|--------|---------------|--------------|-------------|-----------|
| Ton-o-Brands | ABrand | Great Product | X | 2 | 1.9 |
| Ton-o-Brands | BBrand | Great Product | X | 2 | 1.9 |
| Ton-o-Brands | CBrand | Great Product | X | 2 | 1.9 |

A basic model should be reported as discontinued only

- when production has ceased *and*
- it is no longer being sold or offered for sale by the manufacturer or private labeler

Manufacturers ***must*** report this discontinued status to DOE no later than the next annual certification report following such cessation.

Manufacturers ***may*** report this discontinued status to DOE before the next annual certification report following such cessation.

A manufacturer may authorize a third-party to submit certification reports on the manufacturer's behalf. The manufacturer remains responsible for the accuracy of the reports and compliance with the water conservation standards.

Common examples of third-party submitters include test labs or companies that assemble products abroad but do not import them.

To complete a third-party certification report properly,

- A manufacturer must complete a third-party authorization form and provide it to the third-party to submit to DOE.
- The third-party representative must have a CCMS account.
- The third-party's certification on behalf of the manufacturer must indicate the third-party is a third-party representative and must identify the party(ies) on whose behalf the report is being submitted. It must also indicate whether that party is a domestic manufacturer, importer or private labeler.

- Requirements located in 10 C.F.R. § 429.71
- Manufacturers must retain the records which underlie *each* certification of a basic model.
 - This includes test reports!
- Records must be organized and indexed in a fashion that makes them readily accessible for review by DOE upon request.
- Records must be retained for two years from the date that the manufacturer or third party submitter has notified DOE that the model has been *discontinued*.

- Remember to complete both the “Input” and the “Certification” tabs on the spreadsheet
 - If the template status is “ERROR” you have missed a required field or entered data incorrectly. DO NOT submit if the status is ERROR.
- Include model number for both basic model and individual model
 - Do not use “all finishes”
 - Do not use “N/A”
- Can use wildcards:
 - E.g.: ABC1, ABC2, and ABC3 can be on a single line as “ABC*” as long as the last value represents a characteristic that has no effect on water consumption (e.g., color or finish)
 - Note that CCMS treats the wildcard as a unique value, so it will not see “ABC1” and “ABC*” as the same model. If you certify both ways, both will appear in the database.
- Be sure to list all individual models within basic model
- Refer to “Product Description” tab to ensure correct product class

- Plumb-A-Lot sells showerhead A345 with three finishes. The individual model numbers are A345-C, A345-B, and A345-BN. How should it certify all of these finishes?



| Basic Model | Indiv. Model | Water Use |
|-------------|---------------------|-----------|
| A345 | A345- ^{**} | 2.3 |

| Basic Model | Indiv. Model | Water Use |
|-------------|--------------|-----------|
| A345 | N/A | 2.3 |
| A345 | | 2.3 |
| A345 | All Finishes | 2.3 |

- Test Procedure Waivers
 - Only enter “yes” if actually have a waiver; this is rare.
 - List the exact same model number in the certification report (including wildcards, spacing, & hyphens) as in the waiver
- OHA Exception Relief
 - Only enter “yes” if actually have received relief; this is rare.
- Read the column headings carefully
 - You may have to consult DOE’s definitions or test procedures to understand what to enter
- Make sure you’re reporting in the correct units (e.g., gallons vs. liters)
- Correctly indicate number of units tested in sample size column

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Enforcement Overview

| | |
|---|--|
| DOE Office of the General Counsel, Office of Enforcement | Enforces the energy conservation, water conservation, and design standards |
| Certification | <ul style="list-style-type: none">• Civil penalties for failure to certify and improper certification• Certification must be based on testing in accordance with the applicable test procedure and sampling plan. |
| Standards | <ul style="list-style-type: none">• Civil penalties for distribution of products that do not meet Federal standards• Testing products to verify compliance with Federal standards |

| | |
|------------------------------------|---|
| Civil Penalty | <ul style="list-style-type: none">• Failure to meet applicable conservation standards and certification violations.• Penalties for violations of standards calculated per unit offered for distribution in commerce.• Penalties for certification violations calculated per day for each basic model improperly certified or not certified.• DOE has issued guidance on the imposition of civil penalties. |
| Subpoena | To obtain test data and to obtain information regarding distribution of regulated products. |
| Noncompliance Determination | DOE may make a determination of noncompliance based on certification information, on test data provided by a manufacturer, or on test data obtained through DOE testing. |
| Injunction | DOE may seek a court order to ensure compliance with any regulatory requirement. |

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- 10 C.F.R. § 429.12
 - General certification of compliance requirements
- 10 C.F.R. §§ 429.28 - 31
 - Specific certification requirements for faucets, showerheads, water closets, and urinals
- 10 C.F.R. § 429.51
 - Specific certification requirements for commercial prerinse spray valves
- 10 C.F.R. Part 429, Subpart C
 - Enforcement provisions

- 10 C.F.R. Part 430, Subpart B
 - Appendix S: Test procedure for faucets and showerheads
 - Appendix T: Test procedure for water closets and urinals
- 10 C.F.R. § 430.32(o)-(r)
 - Water conservation standards for faucets, showerheads, water closets, and urinals
- 10 C.F.R. Part 431, Subpart O
 - Commercial prerinse spray valves
 - Test procedure
 - Water conservation standard
- 19 C.F.R. § 12.50
 - CBP rules re: importation of DOE covered products and equipment

Internet Resources

| | |
|---|--|
| Submit a Question and Find DOE Guidance: | <ul style="list-style-type: none">DOE Guidance Website: http://www1.eere.energy.gov/guidance/default.aspx?pid=2&spid=1 |
| Request a Test Procedure Waiver: | <ul style="list-style-type: none">DOE’s regulations allow manufacturers to apply for a waiver when a manufacturer determines that a given basic model contains one or more design features that prevent testing in accordance with DOE’s test procedure.Email: AS_Waiver_Requests@ee.doe.gov |
| File a Complaint: | Email energyefficiencyenforcement@hq.doe.gov . The Office of Enforcement will protect the identity of complainants to the maximum extent permitted by law. |
| Find Certified Models: | http://www.regulations.doe.gov/certification-data/ |
| DOE’s Online Certification System: | https://www.regulations.doe.gov/ccms/ |
| Regulations: | http://www.ecfr.gov/ |
| Enforcement Information: | http://energy.gov/gc/enforcement |
| Sign up for Updates: | https://public.govdelivery.com/accounts/USEERE/subscriber/new |