

§ 429.19

Or,

(ii) The lower 97½ percent confidence limit (LCL) of the true mean divided by 0.95, where:

$$LCL = \bar{x} - t_{0.975} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.975}$ is the t statistic for a 97.5% one-tailed confidence interval with $n-1$ degrees of freedom (from Appendix A).

(v) Whenever measures of energy consumption determined by linear interpolation do not agree with measures of energy consumption determined by actual testing, the values determined by testing must be used for certification.

(vi) In calculating the measures of energy consumption for each unit tested, use the design heating requirement corresponding to the mean of the capacities of the units of the sample.

(b) *Certification reports.* (1) The requirements of § 429.12 are applicable to residential furnaces; and

(2) Pursuant to § 429.12(b)(13), a certification report shall include the following public product-specific information:

(i) Residential furnaces and boilers: The annual fuel utilization efficiency (AFUE) in percent (%) and the input capacity in British thermal units per hour (Btu/h).

(ii) For cast-iron sectional boilers: The type of ignition system for gas-fired steam and hot water boilers.

(3) Pursuant to § 429.12(b)(13), a certification report shall include the fol-

lowing additional product-specific information: For cast-iron sectional boilers: a declaration of whether certification is based on linear interpolation or testing. For hot water boilers, a declaration that the manufacturer has incorporated the applicable design requirements.

[76 FR 12451, Mar. 7, 2011; 76 FR 24765, May 2, 2011, as amended at 76 FR 38292, June 30, 2011]

§ 429.19 Dishwashers.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of § 429.11 are applicable to dishwashers; and

(2) For each basic model of dishwashers, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of estimated annual operating cost, energy or water consumption or other measure of energy or water consumption of a basic model for which consumers would favor lower values shall be greater than or equal to the higher of:

(A) 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,

(B) The upper 97½ percent confidence limit (UCL) of the true mean divided by 1.05, where:

$$UCL = \bar{x} + t_{.975} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.975}$ is the t statistic for a 97.5% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

and

(ii) Any represented value of the energy or water factor or other measure of energy or water consumption of a

basic model for which consumers would favor higher values shall be less than or equal to the lower of:

(A) 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,

(B) The lower 97½ percent confidence limit (LCL) of the true mean divided by 0.95, where:

$$LCL = \bar{x} - t_{.975} \left(\frac{s}{\sqrt{n}} \right)$$

And \bar{x} is the sample mean; s is the sample standard deviation; n is the number of samples; and $t_{0.975}$ is the t statistic for a 97.5% one-tailed confidence interval with n-1 degrees of freedom (from Appendix A).

(b) *Certification reports.* (1) The requirements of §429.12 are applicable to dishwashers; and

(2) Pursuant to §429.12(b)(13), a certification report shall include the following public product-specific information: The annual energy use in kilowatt hours per year (kWh/yr) and the water factor in gallons per cycle.

(3) Pursuant to §429.12(b)(13), a certification report shall include the following additional product-specific information: the capacity in number of place settings as specified in ANSI/AHAM DW-1 (incorporated by reference, *see* §429.4), presence of a soil

sensor (if yes, the number of cycles required to reach calibration), and the water inlet temperature used for testing in degrees Fahrenheit (°F).

[76 FR 12451, Mar. 7, 2011; 76 FR 24766, May 2, 2011]

§ 429.20 Residential clothes washers.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of §429.11 are applicable to residential clothes washers; and