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Proposed Regulatory Language

California Code of Regulations
Title 20. Public Utilities and Energy
Division 2. State Energy Resources Conservation and Development Commission
Chapter 4. Energy Conservation
Article 4. Appliance Efficiency Regulations
Sections 1601-1609

Proposed new language appears as underline (example) and proposed deletions appear as strikeout (~~example~~). Existing language appears as plain text. Three dots or "…" represents the substance of the regulations that exists between the proposed language and current language.

§ 1601. Scope.

This Article applies to the following types of new appliances, if they are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles, or other mobile equipment. Unless otherwise specified, each provision applies only to units manufactured on or after the effective date of the provision.

NOTE: For the applicability of these regulations to appliances installed in new building construction, see sections 110.0 and 110.1 of part 6 of Title 24 of the California Code of Regulations.

…**[skipping (a) through (k)]**

(l) Emergency lighting, which is illuminated exit signs~~, and self-contained lighting controls~~.

…**[skipping the rest of section 1601]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1602. Definitions.

(a) General.

In this Article the following definitions apply. If a term is not defined here, the applicable definition in NAECA, EPAct, the EPAct 2005, EISA, or the test methods listed in section 1604 of this Article shall apply where it is reasonable to do so.

…**[skipping "AC" through "Color rendering index (CRI)"]**

"Commercial and industrial equipment" means an article of equipment, regardless of whether it is in fact distributed in commerce for industrial or commercial use, of a type which:

(1) In operation consumes, or is designed to consume energy;

(2) To any significant extent, is distributed in commerce for industrial or commercial use; and
(3) Is not a consumer product, as defined in section 1602(a) of this Article.

…**[skipping the rest of (a)]**

…**[skipping (b)]**

(c) Air Conditioners, Air Filters, and Heat Pump Water-Heating Packages.

…**[skipping "Air conditioner" through "Air-source heat pump"]**

"Basic model" of a federally regulated central air conditioner or central air conditioning heat pump means all units of a given type of central air conditioner or central air conditioning heat pump (or class thereof) manufactured by one manufacturer, having the same primary energy source, and which have essentially identical electrical, physical, and functional (or hydraulic) characteristics that affect energy consumption, energy efficiency, water consumption, or water efficiency. With respect to central air conditioners and central air conditioning heat pumps, essentially identical electrical physical, and functional (or hydraulic) characteristics means:

(1) for split systems manufactured by outdoor unit manufacturers: all individual combinations having the same model of outdoor unit, which means comparably performing compressor(s) [a variation of no more than five percent in displacement rate (volume per time) as rated by the compressor manufacturer, and no more than five percent in capacity and power input for the same operating conditions as rated by the compressor manufacturer], outdoor coil(s) [no more than five percent variation in face area and total fin surface area; same fin material; same tube material], and outdoor fan(s) [no more than ten percent variation in air flow and no more than twenty percent variation in power input];
(2) for split systems having indoor units manufactured by independent coil manufacturers: all individual combinations having comparably performing indoor coil(s) [plus or minus one square foot face area, plus or minus one fin per inch fin density, and the same fin material, tube material, number of tube rows, tube pattern, and tube size]; and
(3) for single-package systems: all individual models having comparably performing compressor(s) [no more than five percent variation in displacement rate (volume per time) rated by the compressor manufacturer, and no more than five percent variations in capacity and power input rated by the compressor manufacturer corresponding to the same compressor rating conditions], outdoor coil(s) and indoor coil(s) [no more than five percent variation in face area and total fin surface area; same fin material; same tube material], outdoor fan(s) [no more than ten percent variation in outdoor air flow], and indoor blower(s) [no more than ten percent variation in indoor air flow, with no more than twenty percent variation in fan motor power input];
(4) except that:
    (A) for single-package systems and single-split systems, manufacturers may instead choose to make each individual model/combination its own basic model provided the testing and represented value requirements in 10 C.F.R. section 429.16 are met; and
    (B) For multi-split, multi-circuit, and multi-head mini-split combinations, a basic model may not include both individual small-duct, high velocity (SDHV) combinations and non-SDHV combinations even when they include the same model of outdoor unit. The manufacturer may choose to identify specific individual combinations as additional basic models.

…**[skipping the rest of (c)]**

(d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans.

…**[skipping "Adjusted cooling capacity at 83˚F conditions" through "Evaporative cooler"]**

~~"Evaporative cooler efficiency ratio (ECER)" means a measure of the cooling efficiency defined in Table D-3 of section 1604(d) of this Article.~~

…**[skipping the rest of (d)]**

(e) Gas and Oil Space Heaters and Electric Residential Boilers.

…**[skipping "Annual fuel utilization efficiency (AFUE)" through "Central furnace"]**

"Combination space-heating and water-heating appliance" means an appliance that is designed to provide both space heating and water heating from a single primary energy source.

"Combined annual efficiency (CAE)" means [(SHF x $Effy_{hs}$ /100) + (WHF x $Effy_{ss}$ /100) + (R x NHF x EF)] divided by [SHF + WHF + (R x NHF)] as defined in the applicable test method in section 1604(e)(3) of this Article.

~~"Combustion efficiency of a space heater" means a measure of the percentage of heat from the combustion of gas or oil that is transferred to the space being heated or lost as jacket loss, as determined using the applicable test method in section 1604(e) of this Article.~~

~~"Combination space-heating and water-heating appliance" means an appliance that is designed to provide both space heating and water heating from a single primary energy source.~~

"Combustion efficiency for a commercial packaged boiler" means the efficiency descriptor for packaged boilers, determined using test procedures prescribed under 10 C.F.R. section 431.86 and is equal to 100 percent minus percent flue loss (percent flue loss is based on input fuel energy).

<u>"Combustion efficiency of a space heater" means a measure of the percentage of heat from the combustion of gas or oil that is transferred to the space being heated or lost as jacket loss, as determined using the applicable test method in section 1604(e) of this Article.</u>

…**[skipping the rest of (e)]**

(f) Water Heaters.

…**[skipping "Activation lock" through ""Gas-fired instantaneous water heater" that is a federally regulated consumer product"]**

<u>"</u>Gas-fired instantaneous water heater" that is federally regulated commercial and industrial equipment means a water heater that uses gas as the main energy source, and has a rated input both greater than 200,000 Btu/h and not less than 4,000 Btu/h per gallon of stored water.

…**[skipping the rest of (f)]**

…**[skipping (g) through (k)]**

(l) Emergency Lighting ~~and Self-Contained Lighting Controls~~.

~~"Astronomical time-switch control" means an automatic time-switch control device capable of controlling lighting based on the time of day and astronomical events such as sunset and sunrise, accounting for geographic location and date of the year.~~

~~"Automatic daylight control" means a self-contained lighting control device that automatically adjusts lighting levels by using one or more photosensors to detect changes in daylight illumination and then changing the electric lighting level in response to the changes in daylight.~~

~~"Automatic time-switch control" means a self-contained lighting control device that controls lighting based on the time of day.~~

~~"Average Luminance" means the arithmetic mean of all points measured on a surface.~~

~~"Dimmer" means a self-contained lighting control device that varies the electric light lumen output in order to change the level of illumination and energy use.~~

~~"DIP switch" means one of a set of small on-off switches mounted inside a self-contained lighting control that modifies the functionality of the lighting control.~~

"Edge-lit exit sign" means an illuminated exit sign in which lettering etched into a glass, plastic, or similar panel is illuminated through the edge of the panel and in which the lettering and the background are luminous.

"Electroluminescent light source" means a solid-state device which produces light when an electric current is passed through a phosphor-impregnated material.

"Face" means an illuminated side of an illuminated exit sign.

"Illuminated exit sign" means a sign that:
(1) is designed to be permanently fixed in place to identify an exit; and
(2) consists of:
(A) an electrically powered integral light source that illuminates the legend "EXIT" and any directional indicators; and
(B) provides contrast between the legend, any directional indicators, and the background.

~~"Input power" means the rate of electricity consumption, in watts, of an illuminated exit sign.~~

"Input power demand" means the amount of power required to continuously illuminate an exit sign model, measured in watts. For exit sign models with rechargeable batteries, input power demand shall be measured with batteries at full charge.

~~"Lighting control system" means a lighting control in which two or more components are required to be installed in the field to provide all of the functionality required to make a~~

~~fully functional and compliant lighting control. Lighting control systems are regulated under sections 119 and 134 of the Title 24 of the California Code of Regulations.~~

~~"Luminance" means a measure of the brightness of a luminous surface.~~

~~"Luminance contrast" means the relative brightness of an object against its background.~~

"Matrix illuminated exit sign" means an illuminated exit sign that uses an array of small light sources, such as LEDs, to form the lettering of a sign.

~~"Maximum to minimum luminance ratio" means the ratio of maximum to minimum luminance where the luminance should be uniform.~~

~~"Occupant sensing device" means a self-contained lighting control that automatically controls light, allows for complete manual operation, and includes the following devices:~~

~~(1) "Motion sensor," which means an occupant sensing device that is used outdoors, automatically turns lights off when an area is vacated, and automatically turns the lights on when the area is occupied.~~

~~(2) "Occupancy sensor," which means an occupant sensing device that is used indoors and automatically turns lights off when an area is vacated and is capable of automatically turning lights on when an area is occupied.~~

~~(3) "Partial off," which means a motion sensor or occupancy sensor that automatically turns off part of the lighting load when an area is vacated and is capable of automatically turning on the lighting load when an area is occupied.~~

~~(4) "Partial on," which means a motion sensor or occupancy sensor that automatically turns lights off when an area is vacated and is capable of automatically and manually turning on part of the lighting load when an area is occupied.~~

~~(5) "Vacancy sensor," which means an occupant sensing device that automatically turns lights off when an area is vacated but requires lighting loads to be turned on manually.~~

"Panel-type exit sign" means an illuminated exit sign in which a translucent panel diffuses a light source and in which both the lettering and background are luminous.

~~"Photo control" means an automatic daylight control device that automatically turns lights on and off, or automatically adjusts lighting levels, in response to the amount of daylight that is available. A photo control may also be one component of a field assembled lighting system, the component having the capability to provide a signal proportional to the amount of daylight to a lighting control system for the purpose of dimming the electric lights.~~

~~"Photometric measurements" means the measurements of luminance levels made on the face of the sign.~~

~~"Self-contained lighting control" means a unitary lighting control module where no additional components are required for it to be a fully functional lighting control. Self-contained lighting control includes an astronomical time-switch control, an automatic daylight control, an automatic time-switch control, a dimmer, a lighting photo control, or an occupant sensing device.~~

"Stencil illuminated exit sign" means an illuminated exit sign in which an opaque panel conceals the light source and in which only translucent lettering is luminous.

~~"Wall box dimmer" means a dimmer manufactured and intended to be mounted inside an electrical box within a wall.~~

[end of (l)]

…**[skipping (m) through (x)]**

The following documents are incorporated by reference in section 1602.

Number	*Title*

…**[skipping "FEDERAL STATUTES AND REGULATIONS" through "ADOBE SYSTEMS INCORPORATED"]**

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C78.1-1991 (R1996)	Dimensional and Electrical Characteristics of Fluorescent Lamps, Rapid Start Types
ANSI C78.3-1991 (R1996)	Dimensional and Electrical Characteristics of Fluorescent Lamps, Instant Start and cold Cathode Types
ANSI C78.21-1989	Incandescent Lamps – PAR and R Shapes
ANSI C78.20-2003	American National Standard for ~~e~~Electric ~~l~~Lamps – A, G, PS, and Similar Shapes with E26 Medium Screw Bases
ANSI C78.81-2003	~~American National Standard for Electric Lamp Bases~~ Electric Lamps – Double-Capped Fluorescent Lamps – Dimensional and Electrical Characteristics

…**[skipping the rest of "AMERICAL NATIONAL STANDARDS INSTITUTE (ANSI)"]**

…**[skipping the rest of section 1602]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1602.1 Rules Of Construction.

[No Changes]

§ 1603. Testing: All Appliances.

[No Changes]

§ 1604. Test Methods for Specific Appliances.

(a) Refrigerators, Refrigerator-Freezers, and Freezers.

…**[skipping (a)(1) through (a)(3)]**

(4) The test method for water dispensers is EPA Energy Star Program Requirements for Bottled Water Coolers (2004).

EXCEPTION to Section 1604(a)(4) of this Article: Water dispensers equipped with an integral, automatic timer. Water dispensers equipped with an integral, automatic timer shall not be tested using Section 4)D, "Timer Usage," of the referenced test method.

[end of (a)]

…**[skipping (b) through (f)**

(g) Pool Heaters, Portable Electric Spas, Pumps, Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors.

…**[skipping (g)(1)]**

(2) **Test Method for Portable Electric Spas.**

…**[skipping (2)(A) through (2)(B)]**

(C) Test lab report requirements for portable electric spas manufactured on or after June 1, 2019. In addition to the requirements of section 5 of ANSI/APSP/ICC-14 2014 and section 1606 Table X, test lab reports shall include: date of test; minimum and maximum water temperatures settings; copy of the label(s) per section 1607(d)~~(14)~~(13)(B); minimum, maximum, and average water temperatures during test; minimum, maximum, and average ambient air temperatures during test; length of test (in hours); record and plot ambient air temperature (in degrees Fahrenheit), water temperature (in degrees Fahrenheit), current (in amps), and voltage (in volts) at a maximum interval of five minutes during test; and, for inflatable spas, a list of the accessories that were tested with the spa.

…**[skipping the rest of (g)]**

…**[skipping (h) through (j)]**

(k) Lamps.

(1) The test method for general service incandescent lamps, incandescent reflector lamps, and federally regulated general service fluorescent lamps is 10 C.F.R. section 430.23(r) (Appendix R to subpart B of part 430).
(2) The test method for compact fluorescent lamps is 10 C.F.R. section 430.23(y) (Appendix W to subpart B of part 430).
(3) The test method for integrated LED lamps is 10 C.F.R. section 430.23(ee) (Appendix BB to subpart B of part 430). For certification, compliance, and enforcement purposes, the sampling provisions in 10 C.F.R. section 429.56 shall be used.
(4) The optional test methods for state-regulated small diameter directional lamps and state-regulated LED lamps are shown in Table K-1. Optional test procedures are conditionally required depending on manufacturer claims of performance as described in sections 1607(d)~~(13)~~(12) of this Article and 1606 Table X of this Article. For certification, compliance, and enforcement purposes, the sampling provisions in 10 C.F.R. section 429.56 shall be used.

…**[skipping the rest of (k)]**

(l) Emergency Lighting ~~and Self-Contained Lighting Controls~~.

~~(1)~~ **Emergency Lighting.** The test method for illuminated exit signs is 10 C.F.R. section 431.204(b).
(2) ~~**Self-Contained Lighting Controls.** There is no test method for self-contained lighting controls.~~

[end of (l)]

…**[skipping (m)]**

(n) Luminaires and Torchieres.

…**[skipping (n)(1) through (n)(3)]**

(4) **Portable Luminaires.**
(A) The test methods for LED luminaires using LED lamps are shown in ~~Table K-1 of~~ section 1604(k)~~(4)~~(3) of this Article.

…**[skipping the rest of (n)]**

…**[skipping (o) through (v)]**

(w) Battery Chargers and Battery Charger Systems.

…**[skipping (w)(1)]**

(2) **Test Method for Small Battery Charger Systems.** The test method for small battery charger systems that are not federally regulated battery chargers, federally regulated uninterruptible power supplies, battery backups, or non-federally regulated uninterruptible power supplies is 10 C.F.R. section 430.23(aa) (Appendix Y to subpart B of part 430) (Jan. 1, 2017).

…**[skipping (2)(A) through (2)(C)]**

(D) Small battery charger systems that are not consumer products may use the battery manufacturer's recommended end of discharge voltage in place of values in 10 C.F.R. section ~~420.23~~430.23(aa) (Appendix Y to subpart B of part 430) (Jan.1, 2017), Table 3.3.2, where the table's values are not applicable.

…**[skipping the rest of (w)]**

…**[skipping (x)]**

The following documents are incorporated by reference in section 1604.

…**[skipping CALIFORNIA ENERGY COMMISSION TEST METHODS]**

FEDERAL TEST METHODS

C.F.R., Title 10, sections 429.56, 429.63, and 429.70

…**[skipping the rest of FEDERAL TEST METHODS]**

…**[skipping the rest of section 1604]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1605. Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General.

…**[skipping (a) through (f)]**

(g) **Portable Air Conditioners.** If a model of portable air conditioner sold or offered for sale in California has both single-duct and dual-duct configuration options, both configurations must meet the applicable standard in section 1605.3 of this Article.

Note: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

§ 1605.1. Federal and State Standards for Federally Regulated Appliances.

(a) Refrigerators, Refrigerator-Freezers, and Freezers.

(1) **Non-Commercial Refrigerators, Non-Commercial Refrigerator-Freezers, and Non-Commercial Freezers.**

(A) The energy consumption of non-commercial refrigerators designed for the refrigerated storage of food at temperatures above 32F and below 39F, configured for general refrigerated food storage, non-commercial refrigerator-freezers, and non-commercial freezers, including drawer units, and kitchen units ~~that are manufactured on or after the effective dates shown~~ shall be not greater than the applicable values shown in Table A-2. The standards shown in Table A-2 do not apply to non-commercial refrigerators and non-commercial refrigerator-freezers with total refrigerated volume exceeding 39 ft^3 or non-commercial freezers with total refrigerated volume exceeding 30 ft^3.

Table A-2
Standards for Non-Commercial Refrigerators, Refrigerator-Freezers, and Freezers

Product class	***Maximum Energy Use (kWh/year)* Equation****
1. Refrigerator-freezers and refrigerators other than all-refrigerators with manual defrost	7.99AV + 225.0 0.282av + 225.0
1A. All-refrigerators—manual defrost	6.79AV + 193.6 0.240av + 193.6
2. Refrigerator-freezers—partial automatic defrost	7.99AV + 225.0 0.282av + 225.0
3. Refrigerator-freezers—automatic defrost with top-mounted freezer without an automatic icemaker	8.07AV + 233.7 0.285av + 233.7
3-BI. Built-in refrigerator-freezer—automatic defrost with top-mounted freezer without an automatic icemaker	9.15AV + 264.9 0.323av + 264.9
3I. Refrigerator-freezers—automatic defrost with top-mounted freezer with an automatic icemaker without through-the-door ice service	8.07AV + 317.7 0.285av + 317.7
3I-BI. Built-in refrigerator-freezers—automatic defrost with top-mounted freezer with an automatic icemaker without through-the-door ice service	9.15AV + 348.9 0.323av + 348.9
3A. All-refrigerators—automatic defrost	7.07AV + 201.6 0.250av + 201.6
3A-BI. Built-in All-refrigerators—automatic defrost	8.02AV + 228.5 0.283av + 228.5
4. Refrigerator-freezers—automatic defrost with side-mounted freezer without an automatic icemaker	8.51AV + 297.8 0.301av + 297.8
4-BI. Built-In Refrigerator-freezers—automatic defrost with side-mounted freezer without an automatic icemaker	10.22AV + 357.4 0.361av + 357.4
4I. Refrigerator-freezers—automatic defrost with side-mounted freezer with an automatic icemaker without through-the-door ice service	8.51AV + 381.8 0.301av + 381.8
4I-BI. Built-In Refrigerator-freezers—automatic defrost with side-mounted freezer with an automatic icemaker without through-the-door ice service	10.22AV + 441.4 0.361av + 441.4
5. Refrigerator-freezers—automatic defrost with bottom-mounted freezer without an automatic icemaker	8.85AV + 317.0 0.312av + 317.0
5-BI. Built-In Refrigerator-freezers—automatic defrost with bottom-mounted freezer without an automatic icemaker	9.40AV + 336.9 0.332av + 336.9
5I. Refrigerator-freezers—automatic defrost with bottom-mounted freezer with an automatic icemaker without through-the-door ice service	8.85AV + 401.0 0.312av + 401.0
5I-BI. Built-In Refrigerator-freezers—automatic defrost with bottom-mounted freezer with an automatic icemaker without through-the-door ice service	9.40AV + 420.9 0.332av + 420.9
5A. Refrigerator-freezer—automatic defrost with bottom-mounted freezer with through-the-door ice service	9.25AV + 475.4 0.327av + 475.4
5A-BI. Built-in refrigerator-freezer—automatic defrost with bottom-mounted freezer with through-the-door ice service	9.83AV + 499.9 0.347av + 499.9
6. Refrigerator-freezers—automatic defrost with top-mounted freezer with through-the-door ice service	8.40AV + 385.4 0.297av + 385.4

Table A-2 (cont'd)

Product class	*Maximum Energy Use (kWh/year)* Equation**
7. Refrigerator-freezers—automatic defrost with side-mounted freezer with through-the-door ice service	8.54AV + 432.8 0.302av + 432.8
7-BI. Built-In Refrigerator-freezers—automatic defrost with side-mounted freezer with through-the-door ice service	10.25AV + 502.6 0.362av + 502.6
8. Upright freezers with manual defrost	5.57AV + 193.7 0.197av + 193.7
9. Upright freezers with automatic defrost without an automatic icemaker	8.62AV + 228.3 0.305av + 228.3
9I. Upright freezers with automatic defrost with an automatic icemaker	8.62AV + 312.3 0.348av + 260.9
9-BI. Built-In Upright freezers with automatic defrost without an automatic icemaker	9.86AV + 260.9 0.348av + 260.9
9I-BI. Built-in upright freezers with automatic defrost with an automatic icemaker	9.86AV + 344.9 0.348av + 344.9
10. Chest freezers and all other freezers except compact freezers	7.29AV + 107.8 0.257av + 107.8
10A. Chest freezers with automatic defrost	10.24AV + 148.1 0.362av + 148.1
11. Compact refrigerator-freezers and refrigerators other than all-refrigerators with manual defrost	9.03AV + 252.3 0.319av + 252.3
11A.Compact all-refrigerators—manual defrost	7.84AV + 219.1 0.277av + 219.1
12. Compact refrigerator-freezers—partial automatic defrost	5.91AV + 335.8 0.209av + 335.8
13. Compact refrigerator-freezers—automatic defrost with top-mounted freezer	11.80AV + 339.2 0.417av + 339.2
13I. Compact refrigerator-freezers—automatic defrost with top-mounted freezer with an automatic icemaker	11.80AV + 423.2 0.417av + 423.2
13A. Compact all-refrigerators—automatic defrost	9.17AV + 259.3 0.324av + 259.3
14. Compact refrigerator-freezers—automatic defrost with side-mounted freezer	6.82AV + 456.9 0.241av + 456.9
14I. Compact refrigerator-freezers—automatic defrost with side-mounted freezer with an automatic icemaker	6.82AV + 540.9 0.241av + 540.9
15. Compact refrigerator-freezers—automatic defrost with bottom-mounted freezer	11.80AV + 339.2 0.417av + 339.2
15I. Compact refrigerator-freezers—automatic defrost with bottom-mounted freezer with an automatic icemaker	11.80AV + 423.2 0.417av + 423.2
16. Compact upright freezers with manual defrost	8.65AV + 225.7 0.306av + 225.7
17. Compact upright freezers with automatic defrost	10.17AV + 351.9 0.359av + 351.9
18. Compact chest freezers	9.25AV + 136.8 0.327av + 136.8

*AV = Adjusted total volume, expressed in ft^3, as determined in 10 C.F.R. sections 430.23(a) (Appendix A to subpart B of part 430) and 430.23(b) (Appendix B to subpart B of part 430)
*av = Adjusted total volume, expressed in Liters.

…**[skipping the rest of (a)(1)]**

…**[skipping (a)(2) through (a)(6)]**

(7) **Coolers Manufactured Before October 28, 2019, and Water Dispensers.** See section 1605.3(a) of this Article for energy efficiency ~~and energy design~~ standards for:
(A) consumer refrigeration coolers manufactured before October 28, 2019; and
~~(B) freezers with volume exceeding 30 ft^3, that do not exceed 39 ft^3; and that are consumer products, and~~
(B)~~(C)~~ water dispensers.

[end of (a)]

…**[skipping (b)]**

(c) Central Air Conditioners, Air Filters, and Heat Pump Water-Heating Packages.

(1) **Central Air Conditioners.** The EER, IEER, SEER, COP, HSPF, and SCOP, as applicable, of all central air conditioners, including computer room air conditioners, shall be not less than the applicable values shown in Tables C-3, C-4, C-5, C-6, C-7, C-8, and C-9.

(A) **Evaporatively Cooled Computer Room Air Conditioners.** See section 1605.3(c) of this Article for energy efficiency standards for evaporatively cooled computer room air conditioners.

…**[skipping Table C-3 through Table C-4]**

Table C-5
Standards for Commercial Package Air Conditioning and Heating Equipment (Water-Cooled) Air Conditioners, Commercial Package Air Conditioning and Heating Equipment (Evaporatively Cooled) Air Conditioners, and Small Commercial Package Water-Source Heat Pumps

Equipment Type	*Cooling Capacity*	*Sub-category*	*Heating Type**	*Efficiency Levels*	*Compliance date: Equipment manufactured starting on*
Small Commercial Package Air Conditioning and Heating Equipment (Water-Cooled)	< 65,000 Btu/h	AC	All	EER = 12.1	October 29, 2003
	≥ 65,000 Btu/h and < 135,000 Btu/h	AC	N-E	EER = 12.1	June 1, 2013
			A-O	EER = 11.9	
Large Commercial Package Air-Conditioning and Heating Equipment (Water-Cooled)	≥ 135,000 Btu/h and < 240,000 Btu/h	AC	N-E	EER = 12.5	June 1, 2014
			A-O	EER = 12.3	
Very Large Commercial Package Air-Conditioning and Heating Equipment (Water-Cooled)	≥ 240,000 Btu/h and < 760,000 Btu/h	AC	N-E	EER = 12.4	June 1, 2014
			A-O	EER = 12.2	
Small Commercial Package Air-Conditioning and Heating Equipment (Evaporatively Cooled)	< 65,000 Btu/h	AC	All	EER = 12.1	October 29, 2003
	≥ 65,000 Btu/h and < 135,000 Btu/h	AC	N-E	EER = 12.1	June 1, 2013
			A-O	EER = 11.9	
Large Commercial Package Air-Conditioning and Heating Equipment (Evaporatively Cooled)	≥ 135,000 Btu/h and < 240,000 Btu/h	AC	N-E	EER = 12.0	June 1, 2014
		AC	A-O	EER = 11.8	
Very Large Commercial Package Air Conditioning and Heating Equipment (Evaporatively Cooled)	≥ 240,000 Btu/h and < 760,000 Btu/h	AC	N-E	EER = 11.9	June 1, 2014
		AC	A-O	EER = 11.7	
Small Commercial Package Air-Conditioning and Heating Equipment (Water-Source: Water-to-Air, Water-Loop)	< 17,000 Btu/h	HP	All	EER = 12.2 COP = 4.3	October 9, 2015
	≥ 17,000 Btu/h and < 135,000 Btu/h			EER = 13.0 COP = 4.3	

* N-E = No Heating or Electric Resistance Heating
A-O = All Other Types of Heating

…**[skipping the rest of (c)]**

(d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans.

(1) **Ceiling Ffans.**

(A) Ceiling fans manufactured on or after January 1, 2007 shall have the following features:

1. Fan speed controls separate from any lighting controls;
2. Adjustable speed controls (either more than 1 speed or variable speed);
3. The capability of reversible fan action, except for:
   a. Fans sold for industrial applications;
   b. Fans sold for outdoor applications; and
   c. Cases in which safety standards would be violated by the use of the reversible mode.

(B) Ceiling fans manufactured on or after January 21, 2020 shall meet the requirements shown in Table D-4.

Table D-4
Standards for Ceiling Fans Manufactured On or After January 21, 2020

Ceiling Fan Type	***Minimum Efficiency (CFM/Watts)[1]***
Very small-diameter (VSD)	D ≤ 12 inches: 21 D > 12 inches: 3.16 D −17.04
Standard	0.65 D + 38.03
Hugger	0.29 D + 34.46
High-speed small-diameter (HSSD)	4.16 D + 0.02
Large-diameter	0.91 D−30.00
[1]D is the ceiling fan's blade span, in inches.	

EXCEPTIONS to Section 1605.1(d)(1) of this Article: The provisions in section 1605.1(d)(1) of this Article apply to ceiling fans except:

(1) Ceiling fans where the plane of rotation of a ceiling fan's blades is not less than or equal to 45 degrees from horizontal, or cannot be adjusted based on the manufacturer's specifications to be less than or equal to 45 degrees from horizontal;
(2) Centrifugal ceiling fans, as defined in section 1602(d) of this Article;
(3) Belt-driven ceiling fans, as defined in section 1602(d) of this Article;
(4) Oscillating ceiling fans, as defined in section 1602(d) of this Article; and
(5) Highly decorative ceiling fans, as defined in section 1602(d) of this Article.

(2) **Ceiling Ffan Llight Kkits.**

…**[skipping the rest of (d)(2)]**

…**[skipping (d)(3)]**

(4) **Residential Ffurnace Ffans.** Residential furnace fans incorporated in the products listed in Table D-11 of this Article and manufactured on and after July 3, 2019, shall have a fan energy rating (FER) value that meets or is less than the values shown in Table D-11.

(A) **EXCEPTIONS.** Furnace fans incorporated into hydronic air handlers, SDHV modular blowers, SDHV electric furnaces, and central air conditioner/central heat pump indoor units are not subject to the standards listed in Table D-11.

Table D-11
Energy Conservation Standards for Federally Covered Residential Furnace Fans

Product class	***FER[1] (Watts/ 1000 cfm)***
Non-Weatherized, Non-Condensing Gas Furnace Fan (NWG-NC)	FER = 0.044 × Q_{Max} + 182
Non-Weatherized, Condensing Gas Furnace Fan (NWG-C)	FER = 0.044 × Q_{Max} + 195
Weatherized Non-Condensing Gas Furnace Fan (WG-NC)	FER = 0.044 × Q_{Max} + 199
Non-Weatherized, Non-Condensing Oil Furnace Fan (NWO-NC)	FER = 0.071 × Q_{Max} + 382
Non-Weatherized Electric Furnace/Modular Blower Fan (NWEF/NWMB)	FER = 0.044 × Q_{Max} + 165
Mobile Home Non-Weatherized, Non-Condensing Gas Furnace Fan (MH-NWG-NC)	FER = 0.071 × Q_{Max} + 222
Mobile Home Non-Weatherized, Condensing Gas Furnace Fan (MH-NWG-C)	FER = 0.071 × Q_{Max} + 240
Mobile Home Electric Furnace/Modular Blower Fan (MH-EF/MB)	FER = 0.044 × Q_{Max} + 101
Mobile Home Non-Weatherized Oil Furnace Fan (MH-NWO)	Reserved
Mobile Home Weatherized Gas Furnace Fan (MH-WG)**	Reserved
[1]Q_{Max} is the airflow, in cfm, at the maximum airflow-control setting measured using the final DOE test procedure at 10 C.F.R. part 430, subpart B, appendix AA.	

(5) **Portable Air Conditioners.** See section 1605.3(d) of this Article for energy efficiency standards for portable air conditioners.

(6) There are no energy efficiency standards or energy design standards for spot air conditioners, evaporative coolers, whole house fans, or residential exhaust fans. ~~There are no efficiency standards for ceiling fans.~~

[end of (d)]

…**[skipping (e)]**

(f) Water Heaters.

…**[skipping (f)(1) through (f)(2)**

(3) **Water Heaters Regulated Under 10 C.F.R. section 431.110.** Water heaters regulated under 10 C.F.R. section 431.110 must meet the values shown in Tables F-4 and F-5, as applicable.

…**[skipping (f)(3)(A)]**

(B) **Residential-Duty Commercial Water Heaters.** Each residential-duty commercial water heater must have a minimum uniform energy factor not less than the values shown in Table F-5.

Table F-5
Standards for Residential-Duty Commercial Water Heaters

Product Class	*Specifications* [a]	*Draw Pattern*	*Minimum Uniform Energy Factor* [b]
Gas-fired Storage	> 75 kBtu/hr and ≤ 105 kBtu/hr and ≤ 120 gallons	Very Small	$0.2674 - (0.0009 \times V_r)$
		Low	$0.5362 - (0.0012 \times V_r)$
		Medium	$0.6002 - (0.0011 \times V_r)$
		High	$0.6597 - (0.0009 \times V_r)$
Oil-fired Storage	> 105 kBtu/hr and ≤ 140 kBtu/hr and ≤ 120 gal	Very Small	$0.2932 - (0.0015 \times V_r)$
		Low	$0.5596 - (0.0018 \times V_r)$
		Medium	$0.6194 - (0.0016 \times V_r)$
		High	$0.6740 - (0.0013 \times V_r)$
Electric Instantaneous	> 12 kW and ≤ 58.6 kW and ≤ 2 gal	Very Small	0.80
		Low	0.80
		Medium	0.80
		High	0.80

[a] Additionally, to be classified as a residential-duty commercial water heater, a commercial water heater must meet the following conditions:
(1) if the water heater requires electricity, it must use a single-phase external power supply; and
(2) the water heater must not be designed to heat water to temperatures greater than 180°F.
[b] V_r is the rated storage volume (in gallons), as determined pursuant to 10 C.F.R. section 429.44.

(4) **Combination Space-Heating and Water-Heating Appliances.** See section 1605.3(e) of this Article for standards for combination space-heating and water-heating appliances.

(g) Pool Heaters, Portable Electric Spas, Pumps, Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors.

…**[skipping (g)(1) through (g)(5)]**

(6) **Energy Efficiency Standards for Pumps**
(A) For the purposes of section 1605.1(g)(6)(B) of this Article, "PEI_{CL}" means the constant load pump energy index and "PEI_{VL}" means the variable load pump energy index, both as determined in accordance with the test procedure in section 1604(g)(4) of this Article. For the purposes of section 1605.1(g)(6)(C) of this Article, "BEP" means the best efficiency point as determined in accordance with the test procedure in section 1604(g)(4) of this Article.
(B) **Pump Efficiency Standards.** Each pump that is manufactured on or after January 27, 2020 and that:
1. is in one of the equipment classes listed in Table G-2 in section 1605.1(g)(6)(B)4 of this Article;
2. meets the definition of a "clean water pump" in section 1602(g)(4) of this Article;
3. is not listed in section 1605.1(g)(6)(C) of this Article; and
4. conforms to the characteristics listed in section 1605.1(g)(6)(D) of this Article must have a PEI_{CL} or PEI_{VL} rating of not more than 1.00 using the appropriate C-value in Table G-2:

Table G-2
Standards for Pumps Manufactured On or After January 27, 2020

Equipment class[1]	*Maximum PEI*[2]	*C-value*[3]
ESCC.1800.CL	1.00	128.47
ESCC.3600.CL	1.00	130.42
ESCC.1800.VL	1.00	128.47
ESCC.3600.VL	1.00	130.42
ESFM.1800.CL	1.00	128.85
ESFM.3600.CL	1.00	130.99
ESFM.1800.VL	1.00	128.85
ESFM.3600.VL	1.00	130.99
IL.1800.CL	1.00	129.30
IL.3600.CL	1.00	133.84
IL.1800.VL	1.00	129.30
IL.3600.VL	1.00	133.84
RSV.1800.CL	1.00	129.63
RSV.3600.CL	1.00	133.20
RSV.1800.VL	1.00	129.63
RSV.3600.VL	1.00	133.20
ST.1800.CL	1.00	138.78
ST.3600.CL	1.00	134.85
ST.1800.VL	1.00	138.78
ST.~~1800~~3600.VL	1.00	134.85

[1] Equipment class designations consist of a combination (in sequential order separated by periods) of: (1) An equipment family (ESCC = end suction close-coupled, ESFM = end suction frame mounted/own bearing, IL = in-line, RSV = radially split, multi-stage, vertical, in-line diffuser casing, ST = submersible turbine; all as defined in 10 C.F.R. section 431.462); (2) nominal speed of rotation (1800 = 1800 rpm, 3600 = 3600 rpm); and (3) an operating mode (CL = constant load, VL = variable load). Determination of the operating mode is determined using the test procedure in appendix A to this subpart.
[2]For equipment classes ending in .CL, the relevant PEI is PEI_{CL}. For equipment classes ending in .VL, the relevant PEI is PEI_{VL}.
[3]The C-values shown in this table must be used in the equation for PERSTD when calculating PEI_{CL} or PEI_{VL}, as described in section II.B of 10 C.F.R. Appendix A to subpart Y of part 431.

…**[skipping the rest of (g)]**

…**[skipping (h) through (i)]**

(j) Fluorescent Lamp Ballasts and Deep-Dimming Fluorescent Lamp Ballasts.

…**[skipping (j)(1) through (j)(2)(D)]**

EXCEPTIONS to Sections 1605.1(j)(1) and 1605.1(j)(2) <u>of this Article</u>. The power factor and ballast luminous efficiency standards described in sections 1605.1(j)(1) and 1605.1(j)(2) of this Article do not apply to:

…**[skipping the rest of (j)]**

(k) Lamps.

…**[skipping (k)(1)]**

(2) **Incandescent Reflector Lamps.**

(A) The average lamp efficacy of federally regulated incandescent reflector lamps with a rated lamp wattage between 40-205 watts, and manufactured on or after July 15, 2012, and sold before January 1, 2020, shall be not less than the applicable values shown in Table K-3.

EXCEPTION to Section 1605.1(k)(2)(A) of this Article. The standards specified in Table K-3 shall not apply to the following types of incandescent reflector lamps:

(1) Lamps rated at 50 watts or less that are ER30, BR30, BR40, or ER40;
(2) Lamps rated at 65 watts that are BR30, BR40, or ER40 lamps; or
(3) R20 incandescent reflector lamps rated 45 watts or less.

…**[skipping Table K-3]**

(B) See sections 1605.1(k)(6) and 1605.3(k)(1)(B) of this Article for energy efficiency standards for incandescent reflector lamps that are general service lamps and sold on or after January 1, 2020.

(3) **Medium Base Compact Fluorescent Lamps.**

…**[skipping (k)(3)(A)]**

(B) See sections 1605.1(k)(6) and 1605.3(k)(1)(B) of this Article for energy efficiency standards for compact fluorescent lamps that are general service lamps and sold on or after January 1, 2020.

(4) **General Service Incandescent Lamps and Modified Spectrum General Service Incandescent Lamps.**

…**[skipping (k)(4)(A)]**

(B) See sections 1605.1(k)(6) and 1605.3(k)(1)(B) of this Article for energy efficiency standards for general service incandescent lamps that are general service lamps and sold on or after January 1, 2020.

(5) **Candelabra Base Incandescent Lamps and Intermediate Base Incandescent Lamps.**

…**[skipping (k)(5)(A)]**

(B) See sections 1605.1(k)(6) and 1605.3(k)(1)(B) of this Article for energy efficiency standards for candelabra base incandescent lamps and intermediate base incandescent lamps that are general service lamps and sold on or after January 1, 2020.

(6**) General Service Lamps.** General service lamps sold on or after January 1, 2020, shall have a minimum lamp efficacy of 45 lumens per watt.

(l) Emergency Lighting ~~and Self-Contained Lighting Controls~~.

~~(1)~~ **Emergency Lighting.** An illuminated exit sign manufactured on or after January 1, 2006 shall have an input power demand of five watts or less per face.

~~(2) **Self-Contained Lighting Controls.** See section 1605.3(l) of this Article for energy design standards for self-contained lighting controls.~~

[end of (l)]

…**[skipping (m)]**

(n) Luminaires and Torchieres.

…**[skipping (n)(1)]**

(2) **Metal Halide Lamp Fixtures.**

(A) See section 1605.3(n) of this Article for energy efficiency standards and energy design standards for luminaires, including standards for metal halide luminaires sold or offered for sale in California that are manufactured on or after January 1, 2010.

(B) Each metal halide lamp fixture, designed to be operated with lamps less than 150 W and greater than 500 W, manufactured on or after February 10, 2017, must contain a metal halide ballast with an efficiency not less than the value determined from the appropriate equation shown in Table N-1.

…**[skipping Table N-1]**

(C) Metal halide lamp fixtures manufactured on or after February 10, 2017, that operate lamps with rated wattage > 500 W to ≤ 1000 W must not contain a probe-start metal halide ballast.

EXCEPTION to Sections 1605.1(n)(2)(B) and 1605.1(n)(2)(C) <u>of this Article</u>. The standards described in sections 1605.1(n)(2)(B) and 1605.1(n)(2)(C) of this Article do not apply to metal halide lamp fixtures:

(1) with regulated-lag ballasts;
(2) that use electronic ballasts that operate at 480 volts; and
(3) that use high-frequency electronic ballasts.

[end of (n)]

…**[skipping (o) through (r)]**

(s) Electric Motors and Compressors.

…**[skipping (s)(1)]**

(2) **NEMA Design A Motors, NEMA Design B Motors, and IEC Design N Motors.** Starting on June 1, 2016, each NEMA Design A motor, NEMA Design B motor, and IEC Design N motor that is an electric motor meeting the criteria in section 1605.1(s)(1) of this Article and with a power rating from 1 horsepower through 500 horsepower, but excluding fire pump electric motors, manufactured (alone or as a component of another piece of equipment) shall have a nominal full-load efficiency of not less than the values shown in Table S-1:

…**[skipping Table S-1]**

(3) **NEMA Design C motors and IEC Design H motors.** Starting on June 1, 2016, each NEMA Design C motor and IEC Design H motor that is an electric motor meeting the criteria in section 1605.1(s)(1) of this Article and with a power rating from 1 horsepower through 200 horsepower manufactured (alone or as a component of another piece of equipment) shall have a nominal full-load efficiency that is not less than the values shown in Table S-2:

…**[skipping Table S-2]**

(4) Fire Pump Electric Motors. Starting on June 1, 2016, each fire pump electric motor meeting the criteria in section 1605.1(s)(1) of this Article and with a power rating of 1 horsepower through 500 horsepower, manufactured (alone or as a component of another piece of equipment) shall have a nominal full-load efficiency that is not less than the values shown in Table S-3:

…**[skipping Table S-3]**

EXCEPTIONS to Sections 1605.1(s)(2), 1605.1(s)(3), and 1605.1(s)(4) of this Article. The standards in Tables S-1, S-2 or S-3 of this Article do not apply to the following electric motors exempted by the Secretary, or any additional electric motors that the Secretary may exempt:

(A) Air-over electric motors;
(B) Component sets of an electric motor;
(C) Liquid-cooled electric motors;
(D) Submersible electric motors; and
(E) Inverter-only electric motors.

…**[skipping the rest of (s)]**

(t) Distribution Transformers.

…**[skipping (t)(1)]**

(2) **Liquid-Immersed Distribution Transformers.** The efficiency of a liquid- immersed distribution transformer manufactured on or after January 1, 2016 shall be no less than that required for their kVA rating as shown in Table T-4. Liquid-immersed distribution transformers with kVA ratings not appearing in Table T-4 shall have their minimum efficiency level determined by linear interpolation of the kVA and efficiency values immediately above and below that kVA rating.

Table T-4
Standards for Liquid-Immersed Distribution Transformers

Single phase		*Three phase*	
kVa	***Efficiency (%)[1]***	***kVa***	***Efficiency (%)[1]***
10	98.70	15	98.65
15	98.82	30	98.83
25	98.95	45	98.92
37.5	99.05	75	99.03
50	99.11	112.5	99.11
75	99.19	150	99.16
100	99.25	225	99.23
167	99.33	300	99.27
250	99.39	500	99.35
333	99.43	750	99.40
500	99.49	1000	99.43
667	99.52	1500	99.48
833	99.55	2000	99.51
		2500	99.53

[1] Note: All efficiency values are at 50 percent of nameplate-rated load, determined according to the DOE Test Method for Measuring the Energy Consumption of Distribution Transformers under Appendix A to subpart K of 10 C.F.R. part 431.

…**[skipping the rest of (t)]**

…**[skipping (u) through (w)]**

(x) Landscape Irrigation Equipment.

See section 1605.3(x) of this Article for water efficiency standards for landscape irrigation equipment.

…**[skipping the rest of section 1605.1]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1605.2. State Standards for Federally Regulated Appliances.

(a) Refrigerators, Refrigerator-Freezers and Freezers.

(1) **Federally Regulated Refrigerators, Refrigerator-Freezers, Freezers, and Other Refrigeration Equipment.** See section 1605.1(a) of this Article for energy efficiency standards and energy design standards for:
(A) consumer refrigeration products including
1. miscellaneous refrigeration, including but not limited to coolers manufactured on or after October 28, 2019;

(B) commercial refrigerators, commercial freezers, commercial refrigerator-freezers including hybrid commercial refrigerator-freezers; automatic commercial ice makers; walk-in coolers and walk-in freezers; and refrigerated canned and bottled beverage vending machines.

(2) **Coolers Manufactured Before October 28, 2019, ~~Freezers,~~ and Water Dispensers.** See section 1605.3(a) of this Article for energy efficiency standards ~~and energy design standards~~ for:

(A) consumer refrigeration coolers manufactured before October 28, 2019; and

~~(B) freezers that exceed 30 ft³, do not exceed 39 ft³, and that are consumer products; and~~

(B)~~(C)~~ water dispensers.

[end of (a)]

…**[skipping (b) through (c)]**

(d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans.

(1) **Ceiling Fans, Ceiling Fan Light Kits, Dehumidifiers, and Residential Furnace Fans.**

(A) See section 1605.1(d) of this Article for energy efficiency and energy design standards for ceiling fans and ceiling fan light kits.

(B) See section 1605.1(d) of this Article for energy efficiency standards for ~~ceiling fan light kits,~~ dehumidifiers~~,~~ and residential furnace fans.

(2) **Portable Air Conditioners**. See section 1605.3(d) of this Article for energy efficiency standards for portable air conditioners.

(3) There are no energy efficiency standards or energy design standards for spot air conditioners, evaporative coolers, whole house fans, or residential exhaust fans. ~~There are no energy efficiency standards for ceiling fans.~~

[end of (d)]

…**[skipping (e) through (f)]**

(g) Pool Heaters, Portable Electric Spas, Pumps, Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors.

…**[skipping (g)(1) through (g)(2)]**

(3) **Pumps.** See section 1605.1(g)(6) of this Article for energy efficiency standards for federally regulated pumps that are manufactured on or after January 27, 2020.

[end of (g)]

…**[skipping (h) through (k)]**

(l) Emergency Lighting ~~and Self-Contained Lighting Controls~~.

~~(1)~~ **Illuminated Exit Signs.** See section 1605.1(l) of this Article for energy efficiency standards for illuminated exit signs.

~~(2) **Self-Contained Lighting Controls.** See section 1605.3(l) of this Article for design standards for self-contained lighting controls.~~

[end of (l)]

…**[skipping (m) through (w)]**

(x) Landscape Irrigation Equipment.

See section 1605.3(x) of this Article for water efficiency standards for landscape irrigation equipment.

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1605.3. State Standards for Non-Federally Regulated Appliances.

…**[skipping (a) through (b)]**

(c) Central Air Conditioners, Air Filters, and Heat Pump Water-Heating Packages.

…**[skipping (c)(1)]**

(2) **Energy Efficiency Standards for Computer Room Air Conditioners.** The EER of evaporatively cooled computer room air conditioners manufactured on or after ~~the effective dates shown~~ October 29, 2006, shall be not less than the applicable values shown in Table C-11.

(A) **Computer Room Air Conditioners.** See section 1605.1(c) of this Article for energy efficiency standards for air-cooled computer room air conditioners, glycol-cooled computer room air conditioners, and water-cooled computer room air conditioners.

Table C-11
Standards for Evaporatively Cooled Computer Room Air Conditioners

Appliance	*Cooling Capacity (Btu/hr)*	*Minimum EER (Btu/watt-hour)*
		Evaporatively Cooled Effective October 29, 2006
Computer room air conditioners	< 65,000	11.1
	≥ 65,000 and < 135,000	10.5
	≥ 135,000 and < 240,000	10.0

…**[skipping the rest of (c)]**

(d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans.

…**[skipping (d)(1)]**

(2) **Dehumidifiers and Residential Furnace Fans.** See section 1605.1(d) of this Article for energy efficiency standards for ~~ceiling fan light kits,~~ dehumidifiers~~,~~ and residential furnace fans.

(3) **Ceiling Fans and Ceiling Fan Light Kits.** See section 1605.1(d) of this Article for energy efficiency and energy design standards for ceiling fans and ceiling fan light kits.
(4) There are no energy efficiency standards or energy design standards for spot air conditioners, evaporative coolers, whole house fans, or residential exhaust fans. ~~There are no efficiency standards for ceiling fans.~~

[end of (d)]

…**[skipping (e) through (g)]**

(h) Plumbing Fittings.

…**[skipping (h)(1) through (h)(2)]**

(3) **Kitchen Faucets and Aerators and Public Lavatory Faucets and Aerators.** The flow rate of kitchen faucets, kitchen replacement aerators, public lavatory faucets, and public lavatory replacement aerators sold or offered for sale on or after January 1, 2016 shall be not greater than the applicable values shown in Table H-4.
(A) For the plumbing fittings identified in Table H-4, noncompliant products may not be sold or offered for sale on or after January 1, 2016, regardless of manufacture date.

Table H-4
Standards for Kitchen Faucets and Aerators and Public Lavatory Faucets and Aerators

Appliance	***Maximum Flow Rate***
Kitchen faucets and aerators	1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi
Public lavatory faucets and aerators	0.5 gpm at 60psi

…**[skipping (h)(4)]**

(5) **Showerheads.** The flow rate of showerheads shall be not greater than the applicable values shown in Table H-5.

Table H-5
Standards for Showerheads

Appliance	***Maximum Flow Rate***	
	Manufactured on or after July 1, 2016 and prior to July 1, 2018	***Manufactured on or after July 1, 2018***
Showerheads	2.0 gpm at 80 psi[1,2,3]	1.8 gpm at 80 psi[1,2,3]

[1] **Maximum flow rate.** The maximum flow rate shall be the highest value obtained through testing at a flowing pressure of 80 ± 1 psi and shall not exceed the maximum flow rate in Table ~~H-4~~H-5.
[2] **Minimum flow rate.** The minimum flow rate, determined through testing at a flowing pressure of 20 ± 1 psi, shall be not less than 60 percent of the flow rate reported by the manufacturer pursuant to section 1606(a) of this Article. The minimum flow rate determined through testing at a flowing pressure of 45 and 80 ± 1 psi shall be not less than 75 percent of the flow rate reported by the manufacturer pursuant to section 1606(a) of this Article.
[3] **Showerheads with multiple nozzles.** The total flow rate of showerheads with multiple nozzles must be less than or equal to the maximum flow rate in Table H-5 when any or all the nozzles are in use at the same time.

…**[skipping the rest of (h)]**

…**[skipping (i) through (j)]**

(k) Lamps.

(1) **General Service Lamps.**

(A) General service lamps manufactured on or after January 1, 2018, and sold before January 1, 2020, shall meet the standards shown in Table K-8.

Table K-8~~:~~
Standards for General Service Lamps

Lumen Ranges	*Minimum Lamp Efficacy*	*Minimum Rated Lifetime*	*Effective Date*
310-2,600	45 lumens per watt	1,000 Hours	Manufactured on or after January 1, 2018, and sold before January 1, 2020

(B) General service lamps sold on or after January 1, 2020, shall have a minimum lamp efficacy of 45 lumens per watt.

(2) **State-Regulated LED Lamps.**

(A) State-regulated LED lamps with lumen output of 150 lumens or greater for E12 bases, or 200 lumens or greater for E17, E26, and GU24 bases, and manufactured on or after January 1, 2018, shall meet all of the standards shown in Table K-9 and shall have the following:

1. A color point that meets the requirements in Table B1 of Annex B of ANSI C78.377-2015 for color targets and color consistency.
2. A CRI (Ra) of 82 or greater.
3. Individual color scores of R1, R2, R3, R4, R5, R6, R7, and R8 of 72 or greater.
4. A power factor of 0.7 or greater.
5. A rated life of 10,000 hours or greater as determined by the ~~lumen maintenance and time to failure test procedure.~~ "time to failure" portion of the test procedure specified in section 1604(k)(3) of this Article.
6. State-regulated LED lamps that have an ANSI standard lamp shape of A shall meet the omnidirectional light distribution requirements of ENERGY STAR's Product Specification for Lamps Version 2.0 (December 2015).
7. State-regulated LED lamps that have an ANSI standard lamp shape of B, BA, C, CA, F, or G shall meet the decorative light distribution requirements of ENERGY STAR's Product Specification for Lamps Version 1.1 (August 2014).

(B) In addition to the requirements in section 1605.3(k)(2)(A) of this Article, state-regulated LED lamps manufactured on or after July 1, 2019 shall have a standby mode power of 0.2 watt or less.

Table K-9
Standards for State-Regulated LED Lamps

Effective Date	*Minimum Compliance Score*	*Minimum Efficacy Lumens Per Watt*
January 1, 2018	282	68
July 1, 2019	297	80
The compliance score shall be calculated as the sum of the efficacy and 2.3 times the CRI of a lamp.		

(3) **State-regulated Small Diameter Directional Lamps.** State-regulated small diameter directional lamps manufactured on or after January 1, 2018 must have a rated life of

25,000 hours or greater as determined by the ~~lumen maintenance and time to failure test procedure~~ "time to failure" portion of the test procedure specified in section 1604(k)(3) of this Article and meet one of the following requirements:

(A) have luminous efficacy of at least 80 lumens per watt.

(B) have a minimum luminous efficacy of 70 lumens per watt or greater and a minimum compliance score of 165 or greater, where compliance is calculated as the sum of the luminous efficacy and CRI.

(4) **GU24 Base Lamps.** GU24 base lamps shall not be incandescent lamps.

(5) See section 1605.1(k) of this Article for energy efficiency standards for federally regulated lamps.

(l) Emergency Lighting ~~and Self-Contained Lighting Controls~~.

~~(1)~~ **Illuminated Exit Signs.** See section 1605.1(l) of this Article for energy efficiency standards for illuminated exit signs.

~~(2) Self-Contained Lighting Controls Manufactured On or After February 1, 2013.~~

~~(A) All Self-Contained Lighting Controls.~~

~~1. The manufacturer shall provide instructions for installation and start-up calibration of all self-contained lighting control devices.~~

~~2. If indicator lights are integral to a self-contained lighting control system, such indicator lights shall consume no more than 1 watt of power per indicator light.~~

~~(B) Automatic Time-Switch Controls.~~

~~1. Residential automatic time-switch controls labeled for use with lighting shall have program backup capabilities that prevent the loss of the device's schedule for at least 7 days, and the device's date and time for at least 72 hours if power is interrupted.~~

~~2. Commercial automatic time-switch controls labeled for use with lighting shall:~~

~~a. have program backup capabilities that prevent the loss of the device's schedule for at least 7 days, and the device's date and time for at least 72 hours if power is interrupted;~~

~~b. be capable of providing manual override to each connected load and shall resume normally scheduled operation after manual override is initiated within 2 hours for each connected load; and~~

~~c. incorporate an automatic holiday shutoff feature that turns off all connected loads for at least 24 hours and then resumes normally scheduled operation.~~

~~(C) Astronomical Time-Switch Controls. Astronomical time-switch controls shall:~~

~~1. meet the requirements of an automatic time-switch control;~~

~~2. have sunrise and sunset prediction accuracy within plus-or-minus 15 minutes and timekeeping accuracy within 5 minutes per year;~~

~~3. be capable of displaying date, current time, sunrise time, sunset time, and switching times for each step during programming;~~

~~4. have an automatic daylight savings time adjustment; and~~

~~5. have the ability to independently offset the on and off for each channel by at least 99 minutes before and after sunrise or sunset.~~

~~(D) Automatic Daylight Controls. Automatic daylight controls shall:~~

~~1. be capable of reducing the power consumption in response to measured daylight either directly or by sending and receiving signals;~~

~~2. comply with section 1605.3(l)(2)(F) of this Article if the day lighting control is capable of directly dimming lamps;~~

~~3. automatically return to its most recent time delay settings within 60 minutes when put in calibration mode;~~

~~4. have a set point control that easily distinguishes settings to within 10 percent of full scale adjustment;~~

5. have a light sensor that has a linear response within 5 percent accuracy over the range of illuminance measured by the light sensor;
6. have a light sensor that is physically separated from where the calibration adjustments are made, or is capable of being calibrated in a manner that the person initiating the calibration is remote from the sensor during calibration to avoid influencing calibration accuracy; and
7. comply with section 1605.3(l)(2)(E) of this Article if the device contains a photo control component.

(E) **Photo Controls.**

Photo controls shall not have a mechanical device that permits disabling of the control.

(F) **Dimmer Controls.**

1. All dimmer controls shall:
   a. be capable of reducing power consumption by a minimum of 65 percent when the dimmer is at its lowest level;
   b. include an off position which produces a zero lumen output; and
   c. not consume more than 1 watt per lighting dimmer switch leg when in the off position.
2. Dimmer controls that can directly control lamps shall provide electrical outputs to lamps for reduced flicker operation through the dimming range so that the light output has an amplitude modulation of less than 30 percent for frequencies less than 200 Hz without causing premature lamp failure.
3. Wall box dimmers and associated switches designed for use in three way circuits shall be capable of turning lights off, and to the level set by the dimmer if the lights are off.

(G) **Occupant sensing devices.**

1. All occupant sensing devices shall:
   a. be capable of automatically turning off controlled lights in the area no more than 30 minutes after the area has been vacated;
   b. allow all lights to be manually turned off regardless of the status of occupancy; and
   c. have a visible status signal that indicates that the device is operating properly, or that it has failed or malfunctioned. The visible status signal may have an override switch that turns off the signal.
2. All occupant sensing devices that utilize ultrasonic radiation for detection of occupants shall:
   a. comply with 21 C.F.R. part 1002.12; and
   b. emit no audible sound, and shall not emit ultrasound in excess of the decibel levels shown in Table L measured no more than five feet from the source, on axis.

Table L
Ultrasound Maximum Decibel Values

Mid-frequency of Sound Pressure Third-Octave Band (in kHz)	***Maximum db Level within third-Octave Band (in dB reference 20 micropascals)***
Less than 20	80
20 or more to less than 25	105
25 or more to less than 31.5	110
31.5 or more	115

3. All occupant sensing devices that utilize microwave radiation for detection of occupants shall:
   a. comply with 47 C.F.R. parts 2 and 15; and

~~b. not emit radiation in excess of 1 milliwatt per square centimeter measured at no more than 5 centimeters from the emission surface of the device.~~

~~4. Occupant sensing devices incorporating dimming shall comply with the requirements for dimmer controls in section 1605.3(l)(2)(F) of this Article.~~

~~5. Motion sensors shall be rated for outdoor use as specified by the National Electrical Code 2002, Section 410.4(A).~~

~~6. "Partial off" shall have dimming functionality or shall incorporate the following functionalities:~~

~~a. have two poles;~~

~~b. have one pole that is manual-on and manual off; and~~

~~c. have one pole that is automatic-on and automatic-off and shall not be capable of conversion by the user to manual-on only functionality.~~

~~7. "Partial on" shall have dimming functionality or shall incorporate the following functionalities:~~

~~a. have two poles each with automatic-off functionality;~~

~~b. have one pole that is manual-on and shall not incorporate DIP switches, or other manual means, for conversion between manual and automatic functionality; and~~

~~c. have one pole that is automatic-on and shall not be capable of conversion by the user to manual-on functionality.~~

~~8. Vacancy sensors shall:~~

~~a. not turn on lighting automatically and shall not incorporate DIP switches, or other manual means, for conversion between manual and automatic functionality;~~

~~b. have a grace period of no more than 30 seconds and no less than 15 seconds to turn on lighting automatically after the sensor has timed out; and~~

~~c. not have an override switch that disables the sensor.~~

[end of (l)]

…**[skipping (m)]**

(n) Luminaires and Torchieres.

…**[skipping (n)(1) through (n)(2)]**

(3) **Portable Luminaires.**

(A) Portable luminaires manufactured on or after January 1, 2010 shall meet one or more of the following requirements:

1. Be equipped with a dedicated fluorescent lamp socket connected to a high frequency electronic ballast contained within the portable luminaire;
2. Be equipped with one or more GU24 line-voltage sockets and not rated for use with incandescent lamps of any type, including line voltage or low voltage;
3. Be an LED luminaire or a portable luminaire with an LED light engine with integral heat sink, and comply with the minimum requirements shown in Table N-3;

Table N-3
Minimum Requirements for Portable LED Luminaires,
and Portable Luminaires with LED Light Engines with Integral Heat Sink

Criteria	*Requirement*
~~Light Output~~	~~≥ 200 lumens (initial)~~
Minimum LED Luminaire Efficacy	29 lumens/W
Minimum LED Light Engine Efficacy	40 lumens/W
Correlated Color Temperature (CCT)	2700K through 5000K
Minimum Color Rendering Index (CRI)	75
Power Factor (for luminaires labeled or sold for residential use)	≥ 0.70

4. Be equipped with an E12, E17, or E26 screw-based socket and be prepackaged and sold together with one screw-based compact fluorescent lamp or screw-based LED lamp for each screw-based socket on the portable luminaire. The compact fluorescent or LED lamps which are prepackaged with the portable luminaire shall be fully compatible with the luminaire controls, meaning that portable luminaires having a dimmer control shall be prepackaged with dimmable compact fluorescent or LED lamps, and portable luminaires having 3-way controls shall be prepackaged with 3-way compact fluorescent or LED lamps. The compact fluorescent lamps which are prepackaged with the luminaires shall also meet the minimum energy efficiency levels established by ENERGY STAR® for compact fluorescent lamps in effect on December 31, 2008. The LED lamps required to be packaged with the luminaire shall comply with the minimum requirements for state-regulated LED lamps in sections 1601 through 1607 of this Article;
5. Be equipped with one or more single-ended, non-screw based halogen lamp sockets (line or low voltage), a dimmer control or high low control, and be rated for a maximum of 100W.

EXCEPTIONS to Section 1605.3(n)(3) of this Article. The following portable luminaires are not required to be prepackaged and sold together with compact fluorescent or LED lamps:

1. Portable Wall Mount Adjustable Luminaires that meet all of the following requirements: Designed only to be mounted on a wall, having no base which will allow the luminaire to stand on a horizontal surface, having an articulated arm, having a maximum overall length of 24 inches in any direction, fitted only with a single E12, E17 or E26 lamp socket per luminaire, and controlled with an integral dimmer. Luminaires manufactured on or before December 31, 2011 shall have a maximum relamping rated wattage of 57 watts, and luminaires manufactured on or after January 1, 2012 shall have a maximum relamping rated wattage of 43 watts, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.

2. Art Work Luminaires that meet all of the following requirements: Designed only to be mounted directly to art work only for the purpose of illuminating that art work, fitted only with E12 screw-base line-voltage sockets, having no more than three sockets per luminaire, and controlled with an integral high/low switch. Luminaires with a single socket shall have a maximum relamping rated wattage of 25 watts, and luminaires with two or three sockets shall have a maximum relamping rated wattage of 15 watts per socket, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.

(B) Portable luminaires that have internal power supplies shall have zero standby power when the luminaire is turned off.

…**[skipping the rest of (n)]**

…**[skipping (o) through (t)]**

(u) External Power Supplies.

(1) The efficiency in the active mode of state-regulated external power supplies, manufactured on or after ~~the effective dates shown~~ July 1, 2008, when tested at 115 volts at 60 Hz, shall be not less than the applicable values shown (expressed as the decimal equivalent of a percentage); and the energy consumption in the no-load mode of power supplies manufactured on or after the effective date~~s~~ when tested at 115 volts at 60 Hz, shown shall be not greater than ~~the applicable values shown in Table U-4~~ 0.5 watts.

Table U-4
Standards for State-Regulated External Power Supplies
Effective July 1, 2008

Nameplate Output	***Minimum Efficiency in Active Mode***
<1 watt	0.5 * Nameplate Output
≥ 1 and ≤ 51 watts	0.09*Ln(Nameplate Output) + 0.5
> 51 watts	0.85
	Maximum Energy Consumption in No-Load Mode
Any output	0.5 watts
Where Ln (Nameplate Output) = Natural Logarithm of the nameplate output expressed in watts.	

(2) See section 1605.1(u) of this Article for energy efficiency standards for federally regulated external power supplies.

(v) Computers, Computer Monitors, Televisions, Signage Displays, and Consumer Audio and Video Equipment.

…**[skipping (v)(1)]**

(2) **Televisions and Signage Displays.** All televisions and signage displays manufactured on or after the effective dates shall meet the requirements shown in Table V-3.

(3) **Televisions and Signage Displays Manufactured On or After January 1, 2011.** In addition, televisions and signage displays manufactured on or after January 1, 2011 shall meet the requirements shown in sections 1605.3(v)(3)(A), 1605.3(v)(3)(B), and 1605.3(v)(3)(C) of this Article.

…**[skipping the rest of (v)(3)]**

EXCEPTIONS to Sections 1605.3(v)(2) and 1605.3(v)(3) of this Article: The standards found in sections 1605.3(v)(2) and 1605.3(v)(3) of this Article do not apply to professional signage displays.

(4) **Computer monitors.** Computer monitors manufactured on or after July 1, 2019, shall comply with all of the following:

(A) The computer monitor on-mode power draw shall be less than or equal to the following equation with each of the applicable allowances applied at most once:

$$E_{on} \leq (E_{on\_max} + E_{EP} + E_{Game} + E_{OLED} + E_{Curve})$$

Where:

E_{on} is the computer monitor on-mode power draw in watts as determined under section 1604(v)(3) of this Article,

E_{on_max} is the maximum on-mode power draw in watts as determined by Table V-4,

E_{EP} is the enhanced performance display allowance in watts as determined in Table V-5,

E_{Game} is the gaming monitor allowance in watts as determined in Table V-5,

E_{OLED} is the OLED monitor allowance in watts as determined in Table V-5, and

E_{Curve} is the curved monitor allowance in watts as determined in Table V-5.

(B) Consume less than or equal to 1.2 watts in computer monitor sleep mode and computer monitor off mode power combined.

(C) Be shipped with a screen luminance less than or equal to 270 cd/m^2 ~~200 cd/m^2 ± 35 percent~~. A manufacturer may ship with additional features enabled, even if they were turned off in testing.

(D) Computer monitors with touch screen capability are allowed an additional 1 watt allowance per mode in modes where touch functionality is enabled.

...[skipping Table V-4 through Table V-5]

EXCEPTIONS to Section 1605.3(v)(4) of this Article: The following computer monitors are not required to comply with section 1605.3(v)(4) of this Article but shall comply with the test procedures in section 1604(v)(3) of this Article , the certification requirements in section 1606 of this Article , and the marking requirements in section 1607 of this Article:

1. KVMs.
2. KMMs.
3. Very high performance monitors.

EXCEPTION to Section 1605.3(v)(4) of this Article: Medical computer monitors are not required to comply with section 1605.3(v)(4) of this Article or the test procedures in section 1604(v)(3) of this Article but shall comply with the certification requirements in section 1606 of this Article and the marking requirements in section 1607 of this Article.

(5) **Desktop computers, thin clients, mobile gaming systems, portable all-in-ones, and notebook computers.** Desktop computers, thin clients, mobile gaming systems, portable all-in-ones, and notebook computers manufactured on or after January 1, 2019, shall:

(A) Comply with Table V-7; and

(B) Be shipped with power management settings that do both of the following:

1. Transition the computer into either the computer sleep mode or computer off mode measured in section 1604(v)(4) of this Article within 30 minutes of user inactivity. If the transition is to a computer sleep mode, that sleep mode shall either:
   a. Be a computer sleep mode as described in ACPI as S3; or
   b. Consume power less than or equal to the values shown in Table V-6.
2. Transition connected displays into sleep mode within 15 minutes of user inactivity.

EXCEPTION to Section 1605.3(v)(5)(B) of this Article. If the model is shipped at the purchaser's request with either a limited capability operating system or without an operating

system, or if the model is not capable of having an operating system, the model is not required to comply with section 1605.3(v)(5)(B) of this Article.

EXCEPTION to Section 1605.3(v)(5)(A) of this Article. Desktop computers and thin clients assembled before July 1, 2021, entirely from parts manufactured before September 1, 2018, are not required to comply with section 1605.3(v)(5)(A) of this Article.

…**[skipping Table V-6 through Table V-8]**

(6) **Small-scale servers, high expandability computers, mobile workstations, and workstations.** Small-scale servers, high expandability computers, mobile workstations, and workstations manufactured on or after January 1, 2018, shall:
   (A) Be powered by an internal power supply that meets or exceeds the standards in Table V-9, or an external power supply that meets the level VI of efficiency described in the International Efficiency Marking Protocol for External Power Supplies Version 3.0 (Sept. 2013);
   (B) Incorporate Energy-Efficient Ethernet functionality;
   (C) Transition connected displays into sleep mode within 15 minutes of user inactivity; and
   (D) Transition the computer into either the computer sleep mode or computer off mode measured in section 1604(v)(4) of this Article within 30 minutes of user inactivity. If the transition is to a computer sleep mode, that sleep mode shall either:
      1. Be a computer sleep mode as described in ACPI as S3; or
      2. Consume power less than or equal to the values shown in Table V-6.

EXCEPTION to Section 1605.3(v)(6)(D) of this Article: Small-scale servers and rack-mounted workstations are not required to comply with section 1605.3(v)(6)(D) of this Article.

…**[skipping Table V-9]**

(7) **Small volume manufacturers.**
   (A) Computers manufactured on or after January 1, 2019, by a small volume manufacturer shall:
      1. Comply with the power management settings identified in sections 1605.3(v)(5)(B)2. and 1605.3(v)(6)(C) of this Article;
      2. Be shipped with power management settings that transition the computer into either computer sleep mode or computer off mode within 30 minutes of user inactivity; and
      3. Be exempt from all other requirements for computers unless the small volume manufacturer meets the criteria in section 1605.3(v)(7)(C) of this Article.
   (B) Small-scale servers and rack-mounted workstations are not required to comply with section 1605.3(v)(7)(A)2. of this Article.
   (C) If a small volume manufacturer produces desktop or workstation computers in quantities of more than 50 units of a basic model, the manufacturer shall certify those units as meeting the requirements in sections 1603, 1604(v)(4), 1605.3(v)(5) or 1605.3(v)(6), 1606, and 1607 of this Article.

(w) Battery Chargers and Battery Charger Systems.

(1) **Energy Efficiency Standards for Large Battery Charger Systems.** Large battery charger systems manufactured on or after January 1, 2014, and that are not federally regulated battery chargers, shall meet the applicable performance values in Table W-2.

Table W-2
Standards for Large Battery Charger Systems

Performance Parameter		***Standard***
Charge Return Factor (CRF)	100 percent, 80 percent Depth of discharge	~~CRF~~ Shall be ≤ 1.10
	40 percent Depth of discharge	~~CRF~~ Shall be ≤ 1.15
Power Conversion Efficiency		~~Greater than or equal to:~~ Shall be ≥ 89 percent
Power Factor		~~Greater than or equal to:~~ Shall be ≥ 0.90
Maintenance Mode Power (E_b = battery capacity of tested battery)		~~Less than or equal to:~~ Shall be ≤ 10 + 0.0012E_b W
No Battery Mode Power		~~Less than or equal to:~~ Shall be ≤ 10 W

(2) **Energy Efficiency Standards for Small Battery Charger Systems**. Except as provided in sections 1605.3(w)(3), 1605.3(w)(4), and 1605.3(w)(5) of this Article, the following small battery charger systems shall meet the applicable performance values in Table ~~W-2~~W-3:
(A) consumer products that are manufactured on or after February 1, 2013 and before June 13, 2018; and
(B) those that are not consumer products and are manufactured on or after January 1, 2017.

…**[skipping "EXCEPTION to Section 1605.3(w)(2)"]**

Table W-3
Standards for Small Battery Charger Systems

Performance Parameter	***Standard***
Maximum 24 hour charge and maintenance energy (Wh) (E_b = capacity of all batteries in ports and N = number of charger ports)	For E_b of 2.5 Wh or less: 16 × N
	For E_b greater than 2.5 Wh and less than or equal to 100 Wh: 12 x N +1.6E_b
	For E_b greater than 100 Wh and less than or equal to 1000 Wh: 22 x N+1.5E_b
	For E_b greater than 1000 Wh: 36.4 x N +1.486E_b
Maintenance Mode Power and No Battery Mode Power (W) (E_b = capacity of all batteries in ports and N = number of charger ports)	The sum of maintenance mode power and no battery mode power must be less than or equal to: 1x N+0.0021xE_b Watts

(3) **Inductive Charger Systems.** Inductive charger systems manufactured on or after February 1, 2013 and before June 13, 2018 and inductive charger systems that are not federally regulated battery chargers and manufactured on or after February 1, 2013, shall meet either the applicable performance standards in Table ~~W-2~~W-3 or shall use less than 1 watt in maintenance mode, less than 1 watt in no battery mode, and an average of 1 watt or less over the duration of the charge and maintenance mode test.

…**[skipping the rest of (w)]**

(x) Landscape Irrigation Equipment.

(1) **Spray Sprinkler Bodies.**
(A) A spray sprinkler body manufactured on or after October 1, 2020, shall meet all of the following requirements:

1. Maximum flow rate at any tested pressure level. The percent difference between the initial calibration flow rate, as determined by the test method in section 1604(x)(1)(A) of this Article, and the maximum flow rate at any tested pressure level, averaged for the selected samples at the test pressure levels where the maximum flow rate occurred, shall not exceed ± 12.0 percent.

…**[skipping the rest of (x)(1)(A)1.]**

2. Average flow rate across all tested pressures. The percent difference between the initial calibration flow rate, as determined by the test method in section 1604(x)(1)(A) of this Article, and the flow rate at each tested pressure level, averaged across all pressure levels and all selected samples, shall not exceed ± 10.0 percent.

…**[skipping the rest of (x)(1)(A)2.]**

3. Minimum outlet pressure. The average outlet pressure at the initial calibration point, as determined by the test method in section 1604(x)(1)(A) of this Article, of the selected samples shall not be less than two-thirds of the regulation pressure.

…**[skipping the rest of (x)]**

…**[skipping the rest of section 1605.3]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1606. Filing by Manufacturers; Listing of Appliances in the MAEDbS.

(a) Filing of Statements.

Each manufacturer shall electronically file with the Executive Director through the MAEDbS a statement for each appliance that is sold or offered for sale in California. The statement shall contain all of the information described in paragraphs (2) through (4) of this subsection and shall meet all of the requirements of paragraph (1) of this subsection and all other applicable requirements in this Article.

The effective dates of this section shall be the same as the effective dates shown in section 1605.1, 1605.2 or 1605.3 of this Article for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article. For appliances with no energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article,

the effective date of this section shall be one year after they are added to section 1601 of this Article, unless a different effective date is specified.

EXCEPTIONS to Section 1606(a) of this Article: Section 1606(a) of this Article is not applicable to:

1. external power supplies,
2. small electric motors,
3. à la carte chargers meeting the EXCEPTION noted in section 1605.3(w)(2) of this Article, or
4. general service lamps.

…**[skipping (a)(1) through (a)(2)]**

(3) **Testing and Performance Information.**

(A) A statement that the appliance has been tested in accordance with all applicable requirements of sections 1603 and 1604 of this Article. If section 1604 of this Article provides more than one test method that may be used, the manufacturer shall identify which method was used.

EXCEPTION ~~1.~~ to Section 1606(a)(3)(A) of this Article:
For state-regulated compressors, the manufacturer shall submit a statement that the appliance has been tested in accordance with all applicable requirements of sections 1603 and 1604 of this Article, or that the appliance has been rated according to an alternative efficiency determination method (AEDM) in accordance with all applicable requirements of section 1604(s) of this Article.

…**[skipping the rest of (a)(3)]**

Table X
Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
	All Appliances	* Manufacturer's Name	
		* Brand Name	
		* Model Number	
		Date model to be displayed	
		Regulatory Status	Federally regulated consumer product, federally regulated commercial and industrial equipment, non-federally regulated

…[skipping A "Non-Commercial Refrigerators, Non-Commercial Refrigerator-Freezers, Non-Commercial Freezers" through A "Walk-in Coolers, and Walk-in Freezers: Refrigeration Systems"]

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
A	Refrigerated Bottled or Canned Beverage Vending Machines	Equipment Class (reporting of Combination A or Combination B for models manufactured on or after January 8, 2019)	Class A, Class B, Combination A, Combination B
		Door Type	Glass front, closed front
		Machine use designation	Indoor, indoor/outdoor
		Maximum Daily Energy Consumption at 75°F. Ambient Temperature	
		Standard Vendible Capacity	
		Low Power State – lighting	True, ~~f~~False
		Low Power State – refrigeration	True, ~~f~~False
		Low Power State – whole machine	True, ~~f~~False
		On-Site Adjustable by Operator or Owner	True, ~~f~~False
		Refrigerant Type	Ozone-depleting, non-ozone-depleting
		Insulation Type	Ozone-depleting, non-ozone-depleting
		Internal volume	
	Miscellaneous Refrigeration Products	Product Class	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
		Variable Defrost Control	True, False
		Least Time Between Defrosts (hours) (when "Variable Defrost Control" = True)	
		Max Time Between Defrosts (hours) (when "Variable Defrost Control" = True)	
		Variable Anti-Sweat Heater Control	True, False
		Heater Watts at 5%, 15%, 25%, 35%, 45%, 55%, 65%, 75%, 85%, and 95% humidity (watts) (when "Variable Anti-Sweat Heater Control" = True)	
		Testing Conducted with Modifications to Standard Temperature Sensor Locations	True, False
		Total Refrigerated Volume (ft^3)	
		Total Adjusted Volume (ft^3)	
		Annual Energy Use (kWh/year)	

…[end of A]

…[skipping B through C]

…[skipping D "Singe-Duct and Dual-Duct Portable Air Conditioners" through D "Spot Air Conditioners"]

Table X Continued - Data Submittal Requirements

	Appliance	***Required Information***	***Permissible Answers***
D	Evaporative Coolers	*Type	Direct, indirect, indirect/direct
		Evaporative Media Saturation Effectiveness (%) (for direct evaporative coolers only)	
		Media Type (for direct evaporative coolers only)	Expanded paper, woven plastic, aspen wood, rigid cellulose, other (specify).
		Cooling Effectiveness (for indirect evaporative coolers only)	
		Total Power (watts)	
		Airflow Rate (CFM)	
		~~ECER~~	
	Ceiling Fans	*Ceiling fan type (required for models manufactured on or after January 21, 2020 only)	High-speed small-diameter (HSSD), hugger, large diameter, standard, very small-diameter (VSD)
		Diameter (inches)	
		CFM (low, ~~medium,~~ high)	
		Watts (low, ~~medium,~~ high)	
		Efficacy (low, ~~medium,~~ high) [CFM/watt] (required for models manufactured before January 21, 2020 only)	
		Efficiency (CFM/Watt) (required for models manufactured on or after January 21, 2020 only)	
		Fan speed controls separate from light controls	True, false
		Adjustable Speed Controls	(Specify) speed, variable
		Reversible Fan Action Capable	True, False, Exception [See section 1605.1(d)(1)(A)3. of this Article]
		Light Source Type	Compact fluorescent, incandescent, other, None
	Ceiling Fan Light Kits manufactured before January 21, 2020	Socket Type	Medium screw base, pin-based; other
		Packaged with all appropriate lamps to fill all sockets	True, False
		Screw-based Lamps Requirement (Screw-base only)	Meet section 1605.1(d)(2)(A)1. or 2. of this Article (specify)
		Meet section 1605.1(d)(2)(B) of this Article (pin-based sockets only)	True, False
		Operate with lamps totaling more than 190 watts (other socket types only)	True, False

* "Identifier" information as described in section 1602(a) of this Article.
1 = Voluntary for federally regulated appliances
2 = Voluntary for state-regulated appliances

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
D	Ceiling Fan Light Kits manufactured on or after January 21, 2020	Socket Type	Medium screw base, pin-based. integrated SSL, other
		Packaged with lamps to fill all sockets	True, False
		Lumens for each basic model of lamp or each basic model of integrated SSL (lm)	
		Rated wattage (watts)	
		Efficacy (lm/W)	
		Medium screw base sockets packaged with compact fluorescent lamps	True, False
		Medium screw base compact fluorescent lamps meet section 1605.1(d)(2)(D)1. of this Article (medium screw base sockets packaged with compact fluorescent lamps only)	True, False
		Pin-based sockets for fluorescent lamps	True, False
		Uses an electronic ballast (pin-based sockets for fluorescent lamps only)	True, False
	Whole House Fans and Residential Exhaust Fans	*Residential Exhaust Fan Type	Inline single-port, Inline multi-port, Range hood, Bathroom and utility room
		*Whole-House Fan Type	Belt-drive single-fan, Belt-drive dual-fan, Direct-drive single-fan, Direct-drive dual-fan
		Fan Motor Power (watts)	
		Air Flow (CFM)	
		Air Flow Efficiency (CFM/watt)	
	Dehumidifiers	~~Product capacity (pints per day)~~	
		~~Energy Factor~~	
		Dehumidifier Type	Portable dehumidifiers with a capacity less than or equal to 25 pints per day, Portable dehumidifiers with a capacity greater than 25 pints per day and less than or equal to 50 pints per day, Portable dehumidifiers with a capacity greater than 50 pints per day, Whole-home dehumidifiers with a product case volume less than or equal to 8 cubic feet, Whole-home dehumidifiers with a product case volume greater than 8 cubic feet
		Water Capacity (pints per day)	
		Case Volume	
		Integrated Energy Factor (Liters/Kilowatt Hour)	

D	Residential Furnace Fans	Furnace Fan Types	Non-weatherized, non-condensing gas (NWG-NC); Non-weatherized, condensing gas (NWG-C); Weatherized non-condensing gas (WG-NC); Non-weatherized , non-condensing oil (NWO-NC); Non-weatherized electric furnace/modular blower fan (NWEF/NWMB); Mobile home non-weatherized, non-condensing gas (MH-NWG-NC); Mobile home non-weatherized, condensing gas (MH-NWG-C); Mobile home electric furnace/modular blower fan (MH-EF/MB); Mobile home non-weatherized oil (MG-NOW); Mobile home weatherized gas (MH-WG)
		Wattage	
		Airflow at the maximum airflow-control setting (in cfm) (Q_{Max})	
		Fan Energy Rating (FER)	

* "Identifier" information as described in section 1602(a) of this Article.
1 = Voluntary for federally regulated appliances
2 = Voluntary for state-regulated appliances

[end of D]

…**[skipping E through F]**

…**[skipping G "Heat Pump Pool Heaters" through G "Other Pool Heaters"]**

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
G	Pumps (data collection required for models manufactured on or after January 27, 2020 only)	Equipment Class	
		Total Pump Head in feet at BEP	
		Total Pump Head in feet at nominal speed	
		Volume per unit time (flow rate) in gallons per minute (gpm) at BEP	
		Volume per unit time (flow rate) in gallons per minute (gpm) at nominal speed	
		Nominal speed of rotation (rpm)	
		Calculated driver power input at each load point *i* (P_{in_i}), corrected to nominal speed, in horsepower (hp)[3]	
		Driver power input at each load point *i* (P_{in_i}), corrected to nominal speed, in horsepower (hp)[4]	
		Driver power input (measured as the input power to the driver and controls) at each load point *i* (P^{in}_i), corrected to nominal speed, in horsepower (hp)[5]	
		Full impeller diameter in inches	
		PEI_{CL} calculated or tested[4]	
		PEI_{VL} calculated or tested[5]	
		Number of stages tested (RSV and ST pumps only)	
		Pump efficiency at BEP in percent (%) [1,3,4]	
		Pump efficiency at BEP in PER_{CL}[1,3,4]	
		Pump efficiency at BEP in percent (%) [1,5]	
		Pump efficiency at BEP in PER_{VL}[1,5]	
		Pump configuration	
		Nominal motor efficiency in percent (%)[4,5,6]	
		Motor horsepower (hp) for the motor with which the pump is being rated[4,5,6]	
		Bowl diameter in inches (ST pumps only)[3,4,5]	
		PEI_{CL}	
		PEI_{VL}	
		C-value	

* "Identifier" information as described in section 1602(a) of this Article.
1 = Voluntary for federally regulated appliances
2 = Voluntary for state-regulated appliances
3 = For pumps tested to the test methods prescribed in 10 C.F.R. section III of appendix A to subpart Y of part 431.
4 = For pumps tested to the test methods prescribed in 10 C.F.R. section IV or V of appendix A to subpart Y of part 431.
5 = For pumps tested to the test methods prescribed in 10 C.F.R. section VI or VII of appendix A to subpart Y of part 431.
6 = For pumps sold with electric motors regulated by DOE's energy conservation standards for electric motors at §431.25.

…[skipping the rest of G]

…[skipping H through K]

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
L	Emergency Lighting	Light Source Type	LED, electroluminescent, fluorescent, incandescent, other ~~(specify)~~
		~~Height of Letters "E, X, T"~~	
		~~Width of Letters "E, X, T"~~	
		~~Height of Letter "I"~~	
		~~Width of Letter "I"~~	
		Battery Backup	True, False
		Number of Faces	
		~~Input Power Watts~~	
		~~Ballast Luminous Efficiency~~	
		~~Circuit Design~~	~~Cathode cut-out, electronic, magnetic~~
		~~*Start~~	~~Instant, programmed, rapid~~
		~~Ballast Frequency~~	~~High frequency, low frequency, other~~
		~~Average Total Lamp Arc Power~~	
		Sign Format	Edge-lit, panel, matrix, stencil, other ~~(specify)~~
		Input Power Demand	
		~~Minimum Luminance of Face~~	
		~~Maximum Luminance of Face~~	
		~~Average Luminance of Face~~	
		~~Maximum to Minimum Luminance Ratio~~	
		~~Luminance Contrast~~	

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
L	~~Self-Contained Lighting Controls~~	~~Includes installation and calibration instructions~~	~~True, False~~
		~~Includes indicator lights which consume one watt or more~~	~~True, False~~
		~~Meets the requirements of a residential automatic time-switch control~~	~~True, False~~
		~~Meets the requirements of a commercial automatic time-switch control~~	~~True, False~~
		~~Meets the requirements of an astronomical time-switch control~~	~~True, False~~
		~~Meets the requirements of an motion sensor~~	~~True, False~~
		~~Meets the requirements of an automatic daylight control~~	~~True, False~~
		~~Is integrated with a photo-control~~	~~True, False~~
		~~Meets the lighting photo-control requirements~~	~~True, False~~
		~~Meets the dimmer control requirements~~	~~True, False~~
		~~Meets general occupancy sensor requirements~~	~~True, False~~
		~~Is rated for outdoor use~~	~~True, False~~
		~~Meets partial on requirements~~	~~True, False~~
		~~Meets partial off requirements~~	~~True, False~~
		~~Meets vacancy sensor requirements~~	~~True, False~~
		~~Uses ultrasonic occupancy detection~~	~~True, False~~
		~~If uses ultrasonic occupancy detection, meets ultrasound requirements~~	~~True, False, N/A~~
		~~Uses electromagnetic radiation for occupancy detection~~	~~True, False~~
		~~If uses electromagnetic radiation for occupancy detection, meets electromagnetic irradiance at 5cm from emitter (mW/cm^2)~~	~~True, False, N/A~~

…**[end of L]**

…**[skipping M through W]**

Table X Continued - Data Submittal Requirements

	Appliance	*Required Information*	*Permissible Answers*
X	Spray Sprinkler ~~Body~~ Bodies	Regulation pressure (psi)	
		Maximum operating pressure (psi)	
		Percent difference between the initial calibration flow rate and the maximum flow rate at any tested pressure level, averaged for the selected samples at the test pressure levels where the maximum flow rate occurred (percent)	
		Percent difference between the initial calibration flow rate and the flow rate at each tested pressure level, averaged across all pressure levels and all selected samples (percent)	
		Average outlet pressure at the initial calibration point of the selected samples (psi)	

* "Identifier" information as described in section 1602(a) of this Article.
1 = Voluntary for federally regulated appliances
2 = Voluntary for state-regulated appliances

(4) Declaration.

(A) Each statement shall include a declaration, executed under penalty of perjury of the laws of California, that
1. all the information provided in the statement is true, complete, accurate, and in compliance with all applicable provisions of this Article;
2. the requirements of section 1606(g) of this Article have been and are being complied with;
3. for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article, that the appliance complies with the applicable standards;
4. the appliance was tested under the applicable test method specified in section 1604 of this Article, and, for the following appliances, was tested as follows:

…**[skipping (a)(4)(A)4.a. through (a)(4)(A)4.g.]**

h. for kitchen faucets that utilize an optional and temporary higher flow rate than 1.8 gpm, the higher flow rate has been tested utilizing the test procedure identified for kitchen faucets in section 1604(h) of this Article at 60 psi and verified to have a flow rate less than or equal to 2.2 gpm.
i. for state-regulated compressors that are rated using an alternative efficiency determination method (AEDM) in lieu of testing, that the represented value of efficiency, consumption, or other non-energy metrics for the basic model was determined through the alternative efficiency determination method specified in section 1604(s) of this Article.

EXCEPTIONS to section 1606(a)(4)(A)4 of this Article: Section 1606(a)(4)(A)4 of this Article is not applicable to the following types of appliances that have no test methods found in section1604 of this Article:

(1) federally regulated organic light emitting diode (OLED) lamps,
(2) federally regulated candelabra base incandescent lamps,
(3) federally regulated intermediate base incandescent lamps,
(4) traffic signal lamps,
(5) torchieres, and
(6) portable luminaires showing compliance with sections 1605.3(n)(3)(A)1., 1605.3(n)(3)(A)2., or 1605.3(n)(3)(A)5. of this Article~~, and.~~
~~(7) self-contained lighting controls~~.

…**[skipping the rest of (a)]**

…**[skipping (b) through (d)]**

(e) Modified and Discontinued Appliances.

…**[skipping (e)(1) through (e)(2)]**

(3) If a manufacturer of a computer fails to obtain two ISV certifications within 60 days of certifying a computer model or loses ISV certifications such that the computer model no longer meets the definition of a workstation or mobile workstation, that manufacturer shall either file to remove the appliance from the database as described in Section 1606(e)(2) of this Article or shall modify the model certification as described in Section 1606(e)(1) of this Article to comply as a different computer type.

(f) Filing by Third Parties.

(1) A third party may file on behalf of a manufacturer the information required by sections 1606(a)(2), 1606(a)(3), 1606(a)(4), 1606(c)(3), or 1606(e) of this Article if:
   (A) before or with its first submittal, the third party submits to the Executive Director through the MAEDbS a declaration, under penalty of perjury, that:
      1. the third party has read and understood all the provisions of this Article, of federal law, and of all other documents applicable to each appliance category in sections 1601(a)-~~(w)~~(x) of this Article for which the third party will file information, including but not limited to updated test procedures, standards and filing requirements; and
      2. the third party is financially and technically capable of complying with the applicable provisions of this Article;

…**[skipping the rest of (f)]**

…**[skipping (g) through (i)]**

(j) Small Volume Manufacturers.

(1) Entities seeking to be designated as a "small volume manufacturer" for purposes of Section 1605.3(v)(7) of this Article shall certify and retain records to demonstrate the following information:
   (A) Gross revenues from the 12-month period preceding the certification from all of the entity's operations, including operations of any other person or business entity that controls, is controlled by, or is under common control of the entity, is $2,000,000 or less; and
   (A) The manufacturer assembles and sells the computers at the same location.
(2) If a small volume manufacturer no longer meets one of the requirements to be a small

volume manufacturer, the entity shall file to remove itself from the database as a small volume manufacturer within 90 days.

…**[skipping the rest of section 1606]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1607. Marking of Appliances.

…**[skipping (a) through (c)]**

(d) Energy Performance Information.

(1) **Federally Regulated Consumer Products.**
The marking required by 16 C.F.R. part 305 shall be displayed as required for all federally regulated consumer products of the following classes:
(A) ~~R~~refrigerators,
(B) ~~R~~refrigerator-freezers,
(C) ~~F~~freezers,
(D) ~~C~~central air conditioners,
(E) ~~H~~heat pumps,
(F) ~~D~~dishwashers,
(G) ~~W~~water heaters,
(H) ~~R~~room air conditioners,
(I) ~~W~~warm air furnaces,
(J) ~~B~~boilers,
(K) ~~P~~pool heaters,
(L) ~~C~~clothes washers,
(M) ~~F~~fluorescent lamp ballasts,
(N) ~~S~~showerheads,
(O) ~~F~~faucets,
(P) ~~W~~water closets,
(Q) ~~U~~urinals,
(R) ~~G~~general service incandescent reflector lamps,
(S) ~~G~~general service fluorescent lamps,
(T) ~~G~~general service incandescent (other than reflector) lamps,
(U) ~~M~~medium-base compact fluorescent lamps,
(V) ~~M~~metal halide lamp fixtures,
(W) ~~T~~televisions, and
(X) ~~C~~ceiling fans.

…[skipping (d)(2) through (d)(10)]

~~(11)~~**Emergency Lighting and Self-Contained Lighting Controls.** ~~All occupant sensing devices which utilize microwave radiation for detection of occupants shall be marked with an approved Federal Communications Commission identifier. In addition, such devices must have permanently affixed installation instructions recommending that the device be installed at least 12 inches from any area normally used by room occupants.~~

~~(12)~~(11) **Air Filters.** Each unit of air filters manufactured on or after April 1, 2019 shall be marked, permanently and legibly, on an accessible and conspicuous place on the edge of

the filter itself or on the pleats, in characters of font size 12, with the information specified in either section (A) or (B) below as applicable to the air filter model:

…**[skipping the rest of (d)~~(12)~~(11)]**

~~(13)~~(12) **State-Regulated LED Lamps.** State-regulated LED lamps shall meet the criteria below before making any of the relevant claims in marketing materials, including retail packaging or on the lamp itself.

(A) For lamps manufactured on or after January 1, 2018, the following shall be demonstrated before making a claim of being "dimmable."
1. The lamp shall be dimmable to 10 percent of its full light output.
2. The lamp shall be reduced flicker operation;
3. Shall not produce noise in excess of 24 A-weighted decibels at 100 percent and 20 percent of full light output.
4. If the product cannot be reduced flicker operation using a standard phase-cut dimmer, but can be reduced flicker operation using another type of dimmer, references to dimmability shall be qualified with the phrase "dimmable with LED dimmer." These lamps shall include instructions on or inside the retail packaging that describe, or contain an internet link to a description of, the type of dimmers that are compatible or recommended for use with the lamp.

(B) State-regulated LED lamps manufactured on or after January 1, 2018 shall meet all of the following requirements before including comparisons to incandescent lamps:
1. The lamp shall have a correlated color temperature of 3000K or less.
2. The lamp shall be "dimmable" as described in 1607(d)~~(13)~~(12)(A) of this Article.
3. The lamp shall have a lumen output of 310 lumens or greater for medium-screw base lamps or 150 lumens or greater for intermediate and candelabra bases.

EXCEPTION to section 1607(d)~~(13)~~(12)(B) of this Article: Section 1607(d)~~(13)~~(12)(B) of this Article does not apply to incandescent wattage equivalency claims.

…**[skipping the rest of (d)~~(13)~~(12)]**

~~(14)~~(13) **Portable Electric Spas.**

(A) All portable electric spas manufactured on or after June 1, 2019, shall be marked by the manufacturer with the label specified in section 1607(d)~~(14)~~(13)(B). The label shall be legible, conspicuously displayed to the consumer, and be removed only by the consumer.
1. For standard, exercise, and combination spas, the label shall be affixed on a readily visible location on the shell or skirt panel of the unit.
2. For inflatable spas, the label shall be affixed on a readily visible location on the unit's retail packaging.

(B) The label for all portable electric spas shall conform to the design specifications listed in subdivisions (d)~~(14)~~(13)(B)1. through (d)~~(14)~~(13)(B)4. in this section (inclusive). If the spa has been tested with multiple spa covers, the label shall display the most recent performance data, the model number, and the manufacturer, as listed in MAEDbS, of the tested spa cover of the spa unit-cover combination that yielded the maximum normalized standby power test result obtained in accordance with section 1605.3(g)(6)(B). The label may display the most recent spa cover model number(s) and corresponding spa cover manufacturer(s) for other covers tested with the unit. If the label lists multiple spa covers, the label shall display the spa cover model number(s) and corresponding spa cover manufacturer(s) of the spa covers tested with the unit as listed in MAEDbS.
1. Label Specifications. The label shall be formatted as shown in Figure 1 and as directed in subdivision (d)~~(14)~~(13)(B)2. of this section.

…**[skipping (d)~~(14)~~(13)(B)2.]**

3. The label shall be printed:
   a. on a removable adhesive-backed white polymer label or the equivalent for standard, exercise, and combination spas.
   b. as specified in subdivision (d)~~(14)~~(13)(B)3.a. or integrated as part of the unit's retail packaging design for inflatable spas.
4. All adhesive labels shall be applied so they can be easily removed without the use of tools or liquids, other than water, but shall be applied with an adhesive with an adhesion capacity sufficient to prevent dislodgment during normal handling throughout the chain of distribution to the consumer.

~~(15)~~(14) **Landscape Irrigation Equipment.**

(A) **Spray Sprinkler Bodies.** Each spray sprinkler body manufactured on or after October 1, 2020, shall be marked, permanently and legibly, to indicate the presence of an internal pressure regulator. The marking shall be on an accessible and conspicuous place on the spray sprinkler body and designed to be visible after installation.

…**[skipping the rest of section 1607]**

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), and 25960, Public Resources Code.

§ 1608. Compliance, Enforcement, and General Administrative Matters.

[No Changes]

§ 1609. Administrative Civil Penalties.

[No Changes]