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FINAL STATEMENT OF REASONS AND UPDATED INFORMATIVE DIGEST PROPOSED AMENDMENTS TO APPLIANCE EFFICIENCY REGULATIONS

**CALIFORNIA CODE OF REGULATIONS, TITLE 20:
CHAPTER 2, SUBCHAPTER 4, ARTICLE 4,
SECTIONS 1601-1607: APPLIANCE EFFICIENCY
REGULATIONS**

CALIFORNIA ENERGY COMMISSION

DOCKET NUMBER 15-AAER-1

California Energy Commission
Edmund G. Brown, Jr., Governor



May 2016

INTRODUCTION

This document is the Final Statement of Reasons (FSOR) and Updated Informative Digest required by Government Code sections 11346.5(a)(19), 11346.9, and 11347.3(b)(2).

The amendments cover three distinct areas: (1) energy efficiency standards for dimming ballasts; (2) labeling standards for replacement air filters in heating and ventilation systems; and (3) heat pump water-chilling packages. In addition, updates to the federal provisions contained in the California Energy Commission's (Commission) regulations are included.

Since 1975, California's building and appliance energy efficiency standards have saved Californians an estimated \$75 billion in reduced electricity bills. The state's appliance efficiency regulations saved an estimated 22,923 gigawatt hours (GWh) of electricity and 1,626 million therms of natural gas in 2012 alone, resulting in about \$5.24 billion in savings to California consumers. The proposed standards represent the next step in California's long history of resource efficiency and economic savings.

The scope of the original rulemaking included water efficiency standards for toilets, urinals, and faucets. On April 1, 2015, California Governor Edmund G. Brown, Jr., issued Executive Order B-29-15 exempting the Commission from Administrative Procedures Act and directing the Commission to adopt regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings. Therefore, the Commission removed the language related to toilets, urinals, and faucets from the proposed 45-day language in Docket No. 15-AAER-1. The Commission held a public hearing and adopted the regulations establishing standards for these water appliances on April 8, 2015. These regulations were filed with the Secretary of State and are now in effect. (See Office of Administrative Law Regulatory Actions Number 2015-0421-01FP.)

As a result of the Executive Order and adopted water efficiency regulations, only language related to dimming ballasts, heat-pump water chilling packages, air filters, and necessary federal updates remain in the published 15-day language.

PROCEDURAL HISTORY OF THE RULEMAKING

On February 13, 2015, the Office of Administrative Law (OAL) published a Notice of Proposed Action (NOPA) concerning the potential adoption of proposed amendments to the Appliance Efficiency Regulations (Express Terms or 45-day language). The NOPA and 45-day language were also posted on the Commission's website on February 13, 2015.

On February 27, 2015, the Commission published and posted on its website a Notice of Availability and Hearing for the Initial Study and Proposed Negative Declaration for the proposed amendments.

On February 27, 2015, the Commission published and posted on its website a Notice of Postponement, notifying the public that the April 8, 2015, hearing date contained in the NOPA for consideration and adoption of the amendments and the Negative Declaration had been postponed to May 13, 2015. The Notice of Postponement noted that there would be an additional 15-day comment period added to the initial 45-day comment period. The additional 15-day comment period ended on April 15, 2015.

The first public hearing listed in the NOPA, with the lead commissioner for Efficiency, was held on March 17, 2015, where public comments were received.

On April 23, 2015, the Commission published and posted on its website amendments to the express terms and provided a 15-day public comment period ending on May 8, 2015.

During both 60-day and 15-day comment periods, the Commission received comments which have been responded to below.

On May 13, 2015, after the end of the 15-day comment period, the Commission held a hearing to consider approving a resolution adopting the proposed 15-day language, as modified in the resolution, and adopting a negative declaration under the California Environmental Quality Act.

Public comments were taken at the hearing. After considering both the public testimony at the hearing and the comments submitted during the noticed comment periods, the Commission unanimously approved the resolution adopting the 15-day language and negative declaration.

On October 9, 2015, the Commission submitted the rulemaking file to OAL. In November of 2015, the Commission withdrew the rulemaking file to correct procedural and non-substantive errors identified by OAL.

On January 21, 2016, the Commission published and posted on its website a supplemental Initial Statement of Reasons (ISOR) which updated the necessity sections and supplemented the documents relied upon. The 15-day public comment period on the supplemental ISOR ended on February 5, 2016.

On February 10, 2016, the Commission added the Notice and the supplemental ISOR, comments received on the supplement, a revised FSOR, updated responses to comments, and an updated table of contents and closure statement to the initial rulemaking file.

On March 24, 2016, OAL disapproved the rulemaking. In its disapproval letter, OAL set forth a number of non-substantive corrections necessary before the rulemaking could be approved. This FSOR includes the relevant corrections and provides additional explanation related to non-substantive changes to the regulatory text not already identified in the ISOR or supplemental ISOR. Most of the non-substantive changes relate to federal language added in the 15-day language, at the request of stakeholders, to ensure consistency between the Commission's regulations and the Code of Federal Regulations.

UPDATED INFORMATIVE DIGEST (Gov Code section 11346.9(b))

In accordance with Government Code section 11346.9(d), the Informative Digest contained in the NOPA is incorporated by reference.

There have been no changes in applicable laws or to the effect of the proposed regulations from the laws and effects described in the NOPA relating to dimming ballasts, air filter labeling, heat-pump water chilling packages, and federal updates.

While not related to dimming ballasts, air filter labeling and heat-pump water chilling packages, as noted in the introduction, the scope of the original rulemaking included water efficiency standards for toilets, urinals, and faucets. On April 1, 2015, Governor Brown issued Executive Order B-29-15 exempting the Commission from the standard rulemaking process under the Administrative Procedures Act and California Environmental Quality Act and directing the Commission to adopt regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings. Therefore, the Commission removed the language related to toilets, urinals, and faucets from the proposed 45-day language in Docket No. 15-AAER-1. The Commission held a public hearing and adopted the regulations establishing standards for these water

appliances on April 8, 2015. These regulations were filed with the Secretary of State and are now in effect. (See Office of Administrative Law Regulatory Actions Number 2015-0421-01FP)

MATERIALS RELIED UPON THAT WERE NOT AVAILABLE FOR PUBLIC REVIEW PRIOR TO THE CLOSE OF THE PUBLIC COMMENT PERIOD (Gov Code section 11346.9(a)(1))

No new materials were relied upon that were not already identified in the ISOR or supplemental ISOR and all materials relied upon were available for public review.

INCORPORATION BY REFERENCE OF MATERIAL FROM THE NOTICE OF PROPOSED ACTION (Gov Code section 11346.9(d))

The 15-day language does not substantially deviate from the originally-proposed text covering dimming ballasts, air filter labeling, heat pump water chilling packages, and federal updates; therefore, in accordance with Government Code section 11346.9(d), the Commission determines that this FSOR can satisfy the following requirements by incorporating by reference various parts of the February 13, 2015, NOPA.

- Section 11346.9(a)(2). The Commission has determined that regulations will not impose a mandate on state, local agencies or school districts.
- Section 11346.9(a)(5). The Small Business Impacts and Economic Impact on Business determinations from the NOPA are incorporated by reference. The Commission has determined that the regulations have no adverse economic impact upon small businesses. Thus, alternatives to lessen any impact were not considered, and none were identified.
- Section 11346.9(c). The relationship to federal law discussion from the NOPA is incorporated by reference.

CONSIDERATION OF ALTERNATIVE PROPOSALS (Gov Code section 11346.9(a)(4) and (5))

The Commission determined that no alternative before it would be more effective in carrying out the purpose for which this action is proposed, would be as effective and less burdensome to affected persons than the adoption of the proposed regulations, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law. The 15-day language contained some stakeholder suggested edits to improve the effectiveness of the regulatory language.

DIMMING FLUORESCENT BALLASTS

The Commission considered alternative language suggested by a stakeholder but found that any standard less than what was adopted would not be as effective and less burdensome to affected private persons and small businesses in carrying out the purpose of the Warren-Alquist Act, namely to reduce wasteful, uneconomic, inefficient, or unnecessary energy use by prescribing standards for minimum levels of operating efficiency for appliances. See the attached response to comments for additional discussion on proposed alternatives.

AIR FILTERS

The Commission considered other means which would allow purchasers of replacement air filters to correctly match the air filter with their HVAC equipment specifications. The Commission concluded that a label on the product was the least costly and most effective way of transmitting filter specifications to ensure a correct match with the HVAC equipment

installed. The Commission did include changes to the testing process as suggested by stakeholders to allow for extrapolation as opposed to the testing of every size of filter.

Any standard less than what was adopted would not be as effective and less burdensome to affected private persons and small businesses in carrying out the purpose of the Warren-Alquist Act, namely to reduce wasteful, uneconomic, inefficient, or unnecessary energy use by prescribing standards for minimum levels of operating efficiency for appliances. See the attached response to comments for additional discussion on proposed alternatives.

HEAT PUMP WATER-CHILLING PACKAGES

The proposed language does not require specific energy efficiency metrics. Heat pump water-chilling packages are not regulated for energy efficiency, but represent an opportunity for efficiency that is hard to quantify due to a lack of available, credible, and verifiable data. These products are among key equipment that can contribute to reaching cost effective, zero-net-energy buildings. See the attached response to comments for additional discussion on proposed alternatives.

The adopted regulations implement data gathering through a test and list requirement for heat pump water-chilling packages. The definition for this product and test method is based on ANSI/AHRI 550-590 (I-P)-2011. The data collected from testing the equipment are the minimum necessary for modeling in building efficiency software. Additional data requirements related to power draw and capacity are collected to distinguish whether units are likely to be used in residential buildings versus commercial buildings. The reporting requirements are harmonized with the certification requirements in existence through the Commission's Building Energy Efficiency Program. The collected data includes heating coefficient of performance (COP) and cooling energy efficiency ratio (EER).

The Commission has found no alternatives to the proposed action that would be more effective, or as effective and less burdensome in providing Commission staff with adequate data to understand the energy efficiency benefits of heat pump water-chilling packages.

FEDERAL UPDATES

The proposed language includes changes that reflect currently effective federal requirements. Because these federal regulations are already effective by operation of preemption in California, and because regulated parties must comply with them regardless of California's regulations, alternatives that achieve the same statutory policy would be duplicative and unnecessary.

INCORPORATION BY REFERENCE (1 CCR 20(C))

The following documents were incorporated by reference in the final regulations and had been previously identified in the notices for the original express terms and 15-day language and supplemental ISOR. The majority of these documents are necessary for consistency with documents incorporated by reference under the Code of Federal Regulations. (See 10 C.F.R. 431.15 and 431.62.)

AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI)

AHRI 680-2009

2009 Standard for Performance Rating of Residential Air Filter Equipment

Copies available from:

Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
2111 Wilson Blvd, Suite 500
Arlington, VA 22201
Phone: (703) 524-8800
FAX: (703) 562-1942
<http://www.ahrinet.org/>

ANSI/AHRI 550-590 (I-P) 2011

Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle

Copies available from:

American National Standards Institute
1819 I. Street. NW. 6th Floor
Washington DC 20036
www.ANSI.org
Phone: (202) 293-8020
FAX: (202) 293-9287

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM Standard E 1084-86 (Reapproved 2009)

Standard Test Method for Solar Transmittance (Terrestrial) of Sheet Materials Using Sunlight

Copies available from:

ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
www.astm.org
Phone: (610) 832-9585
FAX: (610) 832-9555

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 52.2-2012

Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size (Note information on obtaining copies are currently in existing regulations.)

CANADIAN STANDARDS ASSOCIATION (CSA)

CSA C390-10

Test methods, marking requirements, and energy efficiency levels for three-phase induction motors

Copies available from:

Canadian Standards Association
178 Rexdale Blvd.
Toronto, Ontario, Canada, M9W 1R3
<http://shop.csa.ca/>
Phone: (416) 747-4044

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

Test Method B of IEEE Std 112-2004

IEEE Standard Test Procedure for Polyphase Induction Motors and Generators

Copies available from:

IEEE (TechStreet)
Publications Office
10662 Los Vaqueros Circle
PO Box 3014
Los Alamitos, CA 90720-1264
<http://www.techstreet.com/ieee/>

**INTERNATIONAL EFFICIENCY MARKING PROTOCOL FOR EXTERNAL POWER SUPPLIES,
VERSION 3.0, SEPTEMBER 2013**

Copies available from:

U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy

Forrestal Building
1000 Independence Avenue, SW.,
Mail Station EE-2J
Washington, DC 20585-0121
<http://www.regulations.gov/contentStreamer?documentId=EERE-2008-BT-STD-0005-0218&disposition=attachment&contentType=pdf>

NATIONAL ELECTRIC CODE (NEC)

NFPA 70 (2002)

National Electrical Code section 410.4(A)

Copies available from:

National Fire Protection Association
1 Batterymarch

Park Quincy, MA 02169-7471
www.nfpa.org
Phone: (617) 770-3000
FAX: (617) 770-0700

UNDERWRITERS LABS (UL)

UL 1029-2001

Standard for High-Intensity-Discharge Lamp Ballasts

Copies available from:

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096
www.ul.com
Phone: (847) 272-8800
FAX: (847) 272-8129

Documents identified as being incorporated by reference are national industry standards which are reasonably available from commonly known private organizations. In addition, the express terms specify how copies may be obtained. It would not be possible to publish the full text of these documents into the regulations given the volume of technical data and copyright issues.

SUMMARY OF COMMENTS RECEIVED AND THE COMMISSION'S RESPONSES (Gov Code section 11346.9(a)(3))

See Attachment A for a summary of comments received and responses to all comments on the 45-day and 15-day language as well as the supplemental ISOR received during the comment period that are directed at the regulations or the process by which they were updated. These responses explain how the language was amended to accommodate the comment or the reasoning for rejecting the comment.

UPDATE TO THE INITIAL STATEMENT OF REASONS (Gov Code section 11346.9(a)(1))

Government Code section 11346.9(a)(1) requires the FSOR to contain an update of the information contained in the ISOR. In this case due to a more complex procedural history with the issuance of a supplemental ISOR additional explanation of what this FSOR will include is necessary.

The scope of this rulemaking covered two classes of changes, those with distinct regulatory effect, which include the introduction of new state requirements covering deep-dimming ballasts, air filters and heat pump water-chilling packages and changes that do not have any independent regulatory effect because this class of change copies existing federal law into the Commission's regulations. This second class is the result of updates to the Code of Federal Regulations (C.F.R.) by the US Department of Energy that had yet to be updated in the text of the Commission's regulations.

The supplemental ISOR primarily supplemented and expanded on the requirement to explain the necessity of the regulatory changes and why specific language was selected. The supplemental ISOR also identified all non-substantive changes to the regulatory text that were made since adoption of the regulatory language on May 13, 2015. These changes include correcting some underlining and strikeout errors and adding more complete citations to federal standards set forth in the Code of Federal Regulations. The need for these changes was identified during review of the rulemaking materials by OAL.

This FSOR includes only those changes to the regulatory text not already explained in the ISOR or supplemental ISOR. The majority of changes identified in this FSOR relate to updating language from the C.F.R. to ensure consistency between the C.F.R. and the federal language included in the Commission's regulations. These changes were made as part of the 15-day language published on April 23, 2015. This FSOR contains an explanation for these text changes. The FSOR also identifies and explains non-substantive changes to the regulatory language that occurred after the publication of the supplemental ISOR. Other than those changes noted below, no other changes to the ISOR or Supplemental ISOR are necessary, and those items not addressed are hereby incorporated by reference. Changes to the regulatory text are shown in double underline or ~~double-strikeout~~ to represent regulatory language changes not previously identified in either the ISOR or Supplemental ISOR.

As part of the process to prepare the regulatory text for final approval by OAL and publication by the Secretary of State, some errata type changes to the text have been made but are not specifically identified in this FSOR. Because these changes have no regulatory effect and are being completed to ensure consistency with the format of the existing regulatory text, no notice is required. The types of changes deemed errata include the following: fixing underline or strikeout notation that did not extend all the way to a punctuation mark such as a comma or period; converting the numbers, (i), (ii), (iii) into 1., 2., 3., in any new proposed language; removing the hyphen in term "heat pump"; capitalizing the term "Appendix" when used in a citation; changing the use of capitalization; and adding commas after dates. All of these non-substantive changes have been corrected for the final publication.

Section 1602. Definitions.

(b) Refrigerators, Refrigerators-Freezers, and Freezers.

"Anti-sweat heater" means a device incorporated into the design of a refrigerator or refrigerator-freezer to prevent the accumulation of moisture on exterior surfaces of the cabinet as defined in 10 C.F.R. part 430 Appendix A to Subpart B. ~~under conditions of high ambient humidity.~~

The 15-day language text contained a truncated citation to the C.F.R. The specific appendix section, "Appendix A to Subpart B" has been added for consistency with federal language and ease of locating the relevant text in the C.F.R. The additional citation is a non-substantive change because the definition of anti-sweat heater is a federal definition related to federally regulated appliances and is already existing law. Supplementing the text with the full citation has no regulatory effect.

"Compact refrigerator-freezer" means a refrigerator-freezer that has total volume less than 7.75 ft³:

~~(1) rated volume, as determined using 10 C.F.R. part 430, Appendix A1 of Subpart B and that is manufactured before September 15, 2014;~~

~~(2) as determined using 10 C.F.R. part 430, Appendix A of Subpart B and that is manufactured on or after September 15, 2014.~~

"Freezer volume" means net freezer compartment volume as defined in "adjusted total volume" definition found in 10 C.F.R, part 430, Appendix B to Subpart B ~~or 10 C.F.R. part 430, Appendix B1 to Subpart B~~

These changes were suggested by stakeholders and reflect the current federal definitions as found in 10 C.F.R. part 430. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California's regulations.

"Ice-cream freezer" means a commercial freezer that is designed to operate at or below -5°F ($\pm 2^{\circ}\text{F}$) ($-21^{\circ}\text{C} \pm 1.1^{\circ}\text{C}$) ~~-5°F (-21°C)~~ and that the manufacturer designs, markets, or intends for the storing, displaying, or dispensing of ice cream.

While the language accurately reflected changes in the C.F.R., the "-" notation was erroneously left of the stricken 5°F . The correct language should read: -5°F with a negative sign. This correction has no regulatory effect because the change mirrors existing federal law and the error was apparent on its face given the other numbers in the standard. In addition, the operative standard, -5°F ($\pm 2^{\circ}\text{F}$) ($-21^{\circ}\text{C} \pm 1.1^{\circ}\text{C}$), was correct.

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

"Dust holding capacity" means the total weight of the synthetic loading dust captured by the filter device over all of the incremental dust loading steps of the test. ~~Amount of dust captured on the air filter. Dust holding capacity shall be established at the maximum rated airflow rate, as published by the manufacturer.~~

This text was updated in the 15-day language to remove proposed language which was determined to be unnecessary based on comments by stakeholders and close review of the language. The remaining text adequately describes the term, "dust holding capacity."

"Face area" means the gross area of the air filter exposed to airflow, as measured in a plane perpendicular to the direction of the airflow approaching the air filter (air filter length multiplied by air filter width), expressed in square-feet.

This definition contained in the 15-day language is being added to the regulations to clarify the test requirements and is understood and consistent with the industry terms to support the new air filter labeling requirements. The definition chosen is based on discussions with stakeholders and is standard industry accepted language. The information supporting the definition can be found at pages 9-11 of the staff report titled *Staff Analysis of HVAC Air Filters, Dimming Fluorescent Ballasts, and Heat Pump Water Chilling Packages*, California Energy Commission. Publication Number: CEC-400-2015-007.

"Face velocity" means the rate of air movement at the face of the air filter (airflow rate divided by face area) expressed in feet-per-minute.

This definition contained in the 15-day language is being added to the regulations to clarify the test requirements and is understood and consistent with the industry terms to support the new air filter labeling requirements. The definition chosen is based on discussions with stakeholders and is standard industry accepted language. The information supporting the definition can be found at pages 9-11 of the staff report titled *Staff Analysis of HVAC Air Filters, Dimming Fluorescent Ballasts, and Heat Pump Water Chilling Packages*, California Energy Commission. Publication Number: CEC-400-2015-007.

“Particle size efficiency” also known as “particle size removal efficiency” means the fraction (percentage) of particles that are captured on the air filter. Particle size efficiency is measured in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm). Particle size efficiency ~~ratings are~~ abbreviated as “PSE~~R~~” in the required labels for air filters.

In the 15-day language the definition of “particle size efficiency” was modified as shown by the double strikeout. Staff determined, after discussions with stakeholders that the stricken language was not necessary to convey the meaning of “particle size efficiency” and that abbreviation of PSE was sufficient on the air filter labels. In addition, “PSE” is consistent with existing industry terminology.

(f) Water Heaters.

~~“Energy factor” of a water heater means a measure of overall water heater efficiency, as determined using the applicable test method in section 1604(f).~~

Uniform Energy Factor means the measure of water heater overall efficiency.

The definition of Uniform Energy Factor was added in the 15-day language to reflect the current federal definition found at 10 C.F.R. 430 Appendix E to Subpart B. The change ensures consistency with federal regulations.

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

“Deep-dimming fluorescent lamp ballast” means a fluorescent ballast that is capable of operating lamps in dimmed operating modes at any number of levels at or below 50 percent of full output. The term shall only apply to lamp ballasts designed to operate one, two, three, or four T5 or T8 four-foot linear or U-shape fluorescent lamps.

In the 15-day language there was a non-substantive edit to the definition of “Deep-dimming fluorescent lamp ballast.” The “U” in “U-shape” was originally lower case and staff determined the correct nomenclature, consistent with industry practice, would be a capital U.

“Input power” means the power provided to the ballast, typically line alternating-current power as determined by 10 C.F.R., section 2.5.1.6 of ~~amended~~ Appendix O of Subpart B of Part 430.

In the supplemental ISOR, explanation was provided regarding non-substantive edits to the definition of “input power.” The definition as published in the 15-day language referenced section 2.5.1.6. of amended Appendix Q. “Input power” is a definition in the C.F.R and while the language as published in the 15-day language was sufficient to direct readers to the Appendix of the C.F.R. where “input power” is defined, OAL suggested the definition be enhanced with a full citation to the C.F.R. Therefore, the full citation was incorporated into the definition. The final language provided for publication includes 10 C.F.R. and Subpart B of Part 430. The term “amended” has been removed as the C.F.R. no longer uses amended Appendix Q as there is currently only one Appendix Q. The addition of the full citation and removal of “amended” has no regulatory effect because the definition of “input power” is current federal law.

(o) Dishwashers.

“Compact dishwasher” means a dishwasher that has a capacity of less than eight place settings plus six serving pieces as defined in ~~specified in ANSI/AHAM DW-1 using~~ 10 C.F.R., part 430, Appendix C1 of Subpart B.

“Standard dishwasher” means a dishwasher that has a capacity equal to or greater than eight place settings plus six serving pieces as defined in ~~specified in ANSI/AHAM DW-1 using~~ 10 C.F.R., part 430, Appendix C1 of Subpart B.

These changes included in the 15-day language were suggested by stakeholders and reflect the current federal definitions as found in 10 C.F.R. § 430. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

(s) Electric Motors.

“Accreditation” means recognition by an accreditation body that a laboratory is competent to test the efficiency of electric motors according to the scope and procedures given in 10 C.F.R. sections 431.1 and 431.15. Test Method B of IEEE Std 112-2004 and CSA C390-10

The text of the definition has not changed from the 15-day language but the phrase, “10 C.F.R. sections 431.1 and 431.15.” should have been underlined, as the rest of the text was, to indicate new language. Correcting the underline has no regulatory effect since the definition is existing language in the C.F.R. and the entire text was properly set forth in the 15-day language.

(u) Power Supplies.

“Basic-voltage external power supply” means an external power supply that is not a low-voltage external power supply.

“Direct operation external power supply” means an external power supply that can operate a consumer product that is not a battery charger without the assistance of a battery.

“Indirect operation external power supply” means an external power supply that cannot operate a consumer product that is not a battery charger without the assistance of a battery as determined by the steps in paragraphs (1)(A) through (E) of this definition:

(1) If the external power supply (EPS) can be connected to an end-use consumer product and that consumer product can be operated using battery power, the method for determining whether that EPS is incapable of operating that consumer product directly is as follows:

(A) If the end-use product has a removable battery, remove it for the remainder of the test and proceed to the step in paragraph (1)(E) of this definition. If not, proceed to the step in paragraph (1)(B).

(B) Charge the battery in the application via the EPS such that the application can operate as intended before taking any additional steps.

(C) Disconnect the EPS from the application. From an off mode state, turn on the application and record the time necessary for it to become operational to the nearest five second increment (5 seconds, 10 seconds, etc.).

(D) Operate the application using power only from the battery until the application stops functioning due to the battery discharging.

(E) Connect the EPS first to mains and then to the application. Immediately battery was removed for testing and the end-use product operates as intended, the EPS is not an indirect operation EPS and paragraph 2 of this definition does not apply. If the battery could not be removed for testing, record the time for the application to become operational to the nearest five second increment (5 seconds, 10 seconds, etc.).

(2) If the time recorded in paragraph (1)(E) of this definition is greater than the summation of the time recorded in paragraph (1)(C) of this definition and five seconds, the EPS cannot operate the application directly and is an indirect operation EPS.

These changes in the 15-day language were suggested by stakeholders who noted that a new federal definition covering “Indirect operation external power supply” found in 10 C.F.R. § 430.2 went into effect in February 2016. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations. In the 15-day language the references within the text, (1)(B), (1)(C) and (1)(E) were shown as (1)(ii), (1)(iii) and (1)(v). This error was due to converting the numbering from the C.F.R. to match the lettering designation of the language in Title 20. While the subsection lettering was correctly converted, the embedded references were left as Roman numerals. This correction is non-substantive since it simply reflects different numbering and lettering between the C.F.R. and Title 20. The underlying requirements are the same. In addition, the paragraph C, the word “seconds” have been spelled out for consistency with paragraph E instead of using “sec.”

The following documents are incorporated by reference in section 1602.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM Standard E 1084-86 (Reapproved 2009)

Standard Test Method for Solar Transmittance (Terrestrial) of Sheet Materials Using Sunlight

Copies available from:

ASTM
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
www.astm.org
Phone: (610) 832-9585
FAX: (610) 832-9555

CANADIAN STANDARDS ASSOCIATION (CSA)

CSA C390-10

Test methods, marking requirements, and energy efficiency levels for three-phase induction motors.

Copies available from:

Canadian Standards Association
178 Rexdale Blvd.
Toronto, Ontario, Canada, M9W 1R3
<http://shop.csa.ca/>
Phone: (416) 747-4044

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

Test Method B of IEEE Std 112-2004

IEEE Standard Test Procedure for
Polyphase Induction Motors and
Generators

Copies available from:

IEEE (TechStreet)
Publications Office
10662 Los Vaqueros Circle
PO Box 3014
Los Alamitos, CA 90720-1264
<http://www.techstreet.com/ieee/>

These documents incorporated by reference, related to federal updates, were identified in the 15-day language and in the supplemental ISOR. It appears that the address for ASTM where copies can be obtained was not underlined in the 15-day language. For clarity all three additions are shown in double underline to indicate addition of the text in the 15-day language.

Section 1604. Test Methods for Specific Appliances.

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

Table A-1
Non-Commercial Refrigerator, Refrigerator-Freezer, and Freezer Test Methods

Appliance	Test Method
Non-commercial refrigerators, designed for the refrigerated storage of food at temperatures above 32°F and below 39°F, refrigerated food storage; refrigerator-freezers; and freezers.	10 C.F.R. sections 430.23(a) (Appendix A1 to Subpart B of part 430) and 430.23(b) (Appendix B1 to Subpart B of part 430), as applicable for models manufactured before September 15, 2014 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), as applicable for models manufactured on or after September 15, 2014
Wine chillers that are consumer products	10 C.F.R. section 430.23(a) (Appendix A1 to Subpart B of part 430) with the following modifications: Standardized temperature as referred to in section 3.2 of Appendix A1 shall be 55°F (12.8°C). The calculation of test cycle energy expended (ET) in section 5.2.1.1 of Appendix A + shall be made using the modified formula: $ET=(EP \times 1440 \times k)/T$ Where $k = 0.85$

These changes contained in the 15-day language were suggested by a stakeholder and reflect the current federal test methods as found in 10 C.F.R. § 430 and 10 C.F.R. § 430.23. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California's regulations.

(f) Water Heaters.

(1) **Small Water Heaters.** The test methods for small water heaters are shown in Table F-1.

**Table F-1
Small Water Heater Test Methods**

<i>Appliance</i>	<i>Test Method</i>
Small water heaters that are federally-regulated consumer products	10 C.F.R. section 430.23(c) (Appendix E to Subpart B of part 430) 10 C.F.R. part 430, Subpart B, <u>Appendix E, section 5: “Test Procedures” and part 430.23(e)(4): “The alternative uniform test method for measuring the energy consumption of untested water heaters shall be that set forth in section 7.0 of Appendix E of this subpart.”</u>
Small water heaters that are not federally-regulated consumer products	
Gas and oil storage-type < 20 gallons rated capacity	ANSI/ASHRAE 118.2-1993
Booster water heaters	ANSI/ASTM F2022-00 (for all matters other than volume) ANSI Z21.10.3-1998 (for volume)
Hot water dispensers	Test Method in 1604(f)(4)
Mini-tank electric water heaters	Test Method in 1604(f)(5)
All others	10 C.F.R. section 430.23(e) (Appendix E to Subpart B of part 430)

These changes included in the 15-day language were suggested by stakeholders and reflect the current federal test methods as found in 10 C.F.R. § 430.23. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

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

(3) Deep-dimming fluorescent lamp ballasts shall be tested using 10 C.F.R. section 430.23(q) (Appendix Q~~±~~ to Subpart B of part 430) (referred to as the “federal test method” in the following subsections), modified as follows:

The 15-day language cited to Appendix Q1 to Subpart B of Part 430. At the beginning of the regulatory language development, the federal fluorescent lamp ballast test method was contained in Appendix Q1. Prior to adoption of the 15-day language, the Department of Energy combined Appendix Q and Appendix Q1 so that the correct citation should be Appendix Q. There is no longer an Appendix Q1. Changing the text to accurately reflect the location of the relevant test method is a non-substantive change as the underlying test method has not changed. The supplemental ISOR showed the text as Appendix Q.

In addition in section 1604(j)(3)(C) the term “5-second” erroneously contained a space between the hyphen and the word “second.” This non-substantive change has been corrected in the final text.

(o) Dishwashers.

The test method for dishwashers is 10 C.F.R. section 430.23(c) (Appendix C1 to Subpart B of part 430).

This 15-day language change was suggested by stakeholders and reflects the current federal test methods as found in 10 C.F.R. § 430.23(c). These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California's regulations.

(p) Clothes Washers.

The test method for clothes washers that are consumer products and commercial clothes washers is 10 C.F.R. section 430.23(j) (Appendix J2 to Subpart B of part 430).

This 15-day language change was suggested by stakeholders and reflects the current federal test methods as found in 10 C.F.R. § 430.23(j). This change will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California's regulations.

Section 1604. Documents incorporated by reference.

In the 15-day language the sentence, "The following documents are incorporated by reference in Section 1604." was erroneously underlined. This text is currently in the California Code of Regulation and therefore should not have been underlined.

The ANSI/AHRI test method was identified in the regulatory language in section 1604(c)(5) but inadvertently left out at the end of the section identifying the title of the test method. This error is non-substantive because the original 45-day language and all subsequent versions identified the correct test method to be used to determine the performance data.

ANSI/AHRI 550-590 (I-P) 2011

Performance Rating of Water-Chilling and Heat Pump Water-Heating Packages Using the Vapor Compression Cycle

Section 1605.1. Federal and State Standards for Federally-Regulated Appliances.

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

Table A-3 [change is to footnote and superscript]

	<i>Compact, Built-in, Neither</i>	<i>Ice</i>		<i>Maximum Energy Consumption</i>	
		<i>Equipped with Automatic Ice</i>	<i>Dispense Ice Through</i>	<i>July 1, 2011</i>	<i>Sept. 15, 2014²¹</i>

¹AV = adjusted total volume, expressed in ft³, as determined in 10 C.F.R., part 430, Appendices A~~†~~ and B~~†~~ of Subpart B, ~~which is:~~

~~[1.44 x freezer volume (ft³)] + refrigerator volume (ft³) for refrigerators;~~

~~[1.63 x freezer volume (ft³)] + refrigerator volume (ft³) for refrigerator freezers;~~

~~[1.73 x freezer volume (ft³)] for freezers.~~

~~²AV = adjusted total volume, expressed in ft³, as determined in 10 C.F.R., part 430, Appendices A and B of Subpart B.~~

Table A-3 contains two footnotes. The changes to footnote 1 in the 15-day language cause the text to match the text in footnote 2. Therefore, footnote 2 is redundant and is being removed as a non-substantive change to the regulatory language. The superscript “2” is being changed to a “1” in the table as shown in the final regulatory text. These changes reflect the current federal test methods as found in 10 C.F.R. § 430. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

Table A-4 [correction to title of table]

The correct title for Table A-4 is as set forth in the existing regulations. “Standards for Commercial Refrigerators, Refrigerator-Freezers with a Self-Contained Condensing Unit That are Not Commercial Hybrid Units.” In the 15-day language the term “Refrigerator-Freezer” was incorrectly shown as just “Freezer”. This correction has no regulatory effect and is non-substantive because the existing language correctly shows “Refrigerator-Freezer” and Table A-4 reflects existing federal law under the 10 C.F.R. § 430.

(3) Automatic Commercial Ice Makers.

~~(A) Each cube type automatic commercial ice maker ~~that produces cube type ice~~ with capacities between 50 and 2500 pounds per 24-hour period ~~when tested according to the test standard established in accordance with section 343 of EPCA (42 U.S.C. 6314)~~ and is manufactured on or after January 1, 2010, and before January 28, 2018, shall meet the standard levels set forth in Table A-7.~~

**Table A-7
Standards for Cube Type Automatic Commercial Ice Makers
Manufactured on or After January 1, 2010, and Before January 28, 2018**

(B) Each batch type automatic commercial ice maker with capacities between 50 and 4000 pounds per 24-hour period that is manufactured on or after January 28, 2018, shall meet the standard levels set forth in Table A-8.

Table A-8
Standards for Batch Type Automatic Commercial Ice Makers
Manufactured on or After January 28, 2018

<u>Equipment type</u>	<u>Type of cooling</u>	<u>Harvest rate (lbs ice/24 hours)</u>	<u>Maximum energy use (kWh/100 lbs ice)</u>	<u>Maximum condenser water use* (gal/100 lbs ice)</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 50 and < 300</u>	<u>6.88-0.0055H</u>	<u>200-0.022H.</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 300 and < 850</u>	<u>5.80-0.00191H</u>	<u>200-0.022H.</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 850 and < 1500</u>	<u>4.42-0.00028H</u>	<u>200-0.022H.</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 1500 and < 2500</u>	<u>4.0</u>	<u>200-0.022H</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 2500 and < 4000</u>	<u>4.0</u>	<u>145</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 50 and < 300</u>	<u>10-0.01233H</u>	<u>Not applicable.</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 300 and < 800</u>	<u>7.05-0.0025H</u>	<u>Not applicable.</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 800 and < 1500</u>	<u>5.55-0.00063H</u>	<u>Not applicable.</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 1500 and < 4000</u>	<u>4.61</u>	<u>Not applicable.</u>
<u>Remote Condensing (but not remote compressor)</u>	<u>Air</u>	<u>≥ 50 and < 988</u>	<u>7.97-0.00342H</u>	<u>Not applicable.</u>
<u>Remote Condensing (but not remote compressor)</u>	<u>Air</u>	<u>≥ 988 and < 4000</u>	<u>4.59</u>	<u>Not applicable.</u>
<u>Remote Condensing and Remote Compressor</u>	<u>Air</u>	<u>≥ 50 and < 930</u>	<u>7.97-0.00342H</u>	<u>Not applicable.</u>
<u>Remote Condensing and Remote Compressor</u>	<u>Air</u>	<u>≥ 930 and < 4000</u>	<u>4.79</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 50 and < 200</u>	<u>9.5-0.019H</u>	<u>191-0.0315H.</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 200 and < 2500</u>	<u>5.7</u>	<u>191-0.0315H</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 2500 and < 4000</u>	<u>5.7</u>	<u>112</u>

<u>Self Contained</u>	<u>Air</u>	<u>≥ 50 and < 110</u>	<u>14.79-0.0469H</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Air</u>	<u>≥ 110 and < 200</u>	<u>12.42-0.02533H</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Air</u>	<u>≥ 200 and < 4000</u>	<u>7.35</u>	<u>Not applicable.</u>
<u>H: Harvest rate in pounds per 24 hours.</u> <u>*Water use is for the condenser only and does not include potable water used to make ice.</u>				

(C) Each continuous type automatic commercial ice maker with capacities between 50 and 4,000 pounds per 24-hour period manufactured on or after January 28, 2018, shall meet the standard levels set forth in Table A-9.

Table A-9
Standards for Continuous Type Automatic Commercial Ice Makers
Manufactured on or After January 28, 2018

<u>Equipment type</u>	<u>Type of cooling</u>	<u>Harvest rate (lbs ice/24 hours)</u>	<u>Maximum energy use (kWh/100 lbs ice)</u>	<u>Maximum condenser water use* (gal/100 lbs ice)</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 50 and < 801</u>	<u>6.48-0.00267H</u>	<u>180-0.0198H</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 801 and < 2500</u>	<u>4.34</u>	<u>180-0.0198H.</u>
<u>Ice Making Head</u>	<u>Water</u>	<u>≥ 2500 and < 4000</u>	<u>4.34</u>	<u>130.5</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 50 and < 310</u>	<u>9.19-0.00629H</u>	<u>Not applicable.</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 310 and < 820</u>	<u>8.23-0.0032H</u>	<u>Not applicable.</u>
<u>Ice Making Head</u>	<u>Air</u>	<u>≥ 820 and < 4000</u>	<u>5.61</u>	<u>Not applicable.</u>
<u>Remote Condensing (but not remote compressor)</u>	<u>Air</u>	<u>≥ 50 and < 800</u>	<u>9.7-0.0058H</u>	<u>Not applicable.</u>
<u>Remote Condensing (but not remote compressor)</u>	<u>Air</u>	<u>≥ 800 and < 4000</u>	<u>5.06</u>	<u>Not applicable.</u>
<u>Remote Condensing and Remote Compressor</u>	<u>Air</u>	<u>≥ 50 and < 800</u>	<u>9.9-0.0058H</u>	<u>Not applicable.</u>
<u>Remote Condensing and Remote Compressor</u>	<u>Air</u>	<u>≥ 800 and < 4000</u>	<u>5.26</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 50 and < 900</u>	<u>7.6-0.00302H</u>	<u>153-0.0252H.</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 900 and < 2500</u>	<u>4.88</u>	<u>153-0.0252H</u>
<u>Self Contained</u>	<u>Water</u>	<u>≥ 2500 and < 4000</u>	<u>4.88</u>	<u>90</u>

<u>Self Contained</u>	<u>Air</u>	<u>≥ 50 and < 200</u>	<u>14.22-0.03H</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Air</u>	<u>≥ 200 and < 700</u>	<u>9.47-0.00624H</u>	<u>Not applicable.</u>
<u>Self Contained</u>	<u>Air</u>	<u>≥ 700 and < 4000</u>	<u>5.1</u>	<u>Not applicable.</u>
<u>H Harvest rate in pounds per 24 hours.</u>				
<u>*Water use is for the condenser only and does not include potable water used to make ice.</u>				

These 15-day language changes were suggested by stakeholders and reflect the current federal test methods as found in 10 C.F.R. § 431, subpart H, Automatic Commercial Ice Makers. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

In 1605.1(a)(4)(C) the text was added in the 15-day language to reflect changes in 10 C.F.R. section 431.306. To better match the structure of the text in the C.F.R. the final regulatory language in Title 20 was re-formatted with existing language becoming (i) and the new 15-day language becoming (ii). The language itself is the same as the 15-day language. The formatting changes are non-substantive and have no regulatory effect.

(6) Refrigerated Canned and Bottled Beverage Vending Machines. The daily energy consumption (in kilowatt hours per day) when measured at the 75°F ± 2°F and 45 ± 5% RH condition of each refrigerated bottled or canned beverage vending machine manufactured on or after August 31, 2012 shall be not greater than the values shown in Table A-~~8~~10.

Table A-~~8~~10
Standards for Refrigerated Canned and Bottled Beverage Vending Machines
Manufactured On or After August 31, 2012

Additions of tables require renumbering of existing Table A-8. This is a change without regulatory effect.

(c) Central Air Conditioners.

(1) Central Air Conditioners. The EER, 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-2, C-3, C-4, C-5, and C-6, and C-7, and C-8.~~

~~Table C-2~~ Table C-3

~~Table C-3~~ Table C-4

~~Table C-4~~ Table C-5

~~Table C-5~~ Table C-6

~~Table C-6~~ Table C-7

Table C-8

Standards for Variable Refrigerant Flow Multi-Split Air Conditioners and Heat Pumps

Additions of tables require renumbering of existing Tables C-2 through C-6. This is a change without regulatory effect. In the 15-day language, Table C-7 in subsection (c)(1) was not

underlined. The error is non-substantive and has no regulatory effect as Table C-7 is the renumbering of existing Table C-6.

(c) (4) Heat Pump Water-Chilling Packages.

There is no energy efficiency standard or energy design standard for heat pump, water-chilling packages.

In the 15-day language the heading for new section 1605.1(c)(4) was not fully underlined. While the text of the section was correctly underlined, the heading, “(4) Heat Pump Water-Chilling Packages” was not. Adding the underline to the heading is a non-substantive change as the operative text explaining there is no energy efficiency standards related to heat pump water-chilling packages, was correctly underlined.

Table E-6: The existing Table E-6 is being replaced with a new Table E-6. In the 15-day language the old table was correctly shown in strikeout and the new table was correctly underlined except that the headings for the new table, “Product Class”, “AFUE Percent”, and “Compliance date” were not underlined. This error has been corrected in the final text to be published. The error has no regulatory effect since the entire new table is already existing federal law and the contents of the table were correctly underlined.

(f) Water Heaters.

(2) Small Water Heaters. The energy factor of all small water heaters that are federally-regulated consumer products, (other than booster water heaters, hot water dispensers, and mini-tank electric water heaters) shall be not less than the applicable values shown in Table F-3.

**Table F-3
Standards for Small Federally-Regulated Water Heaters**

<i>Appliance</i>	<i>Rated Storage Volume (gallons)</i>	<i>Minimum Energy Factor</i>	
		<i>Effective January 20, 2004</i>	<i>Effective April 16, 2015</i>
Gas-fired storage-type water heaters	≤ 55	0.67 - (.0019 x V)	0.675 - (0.0015 x V)
	> 55		0.8012 - (0.00078 x V)
Oil-fired water heaters (storage) and instantaneous)	Any	0.59 - (.0019 x V)	0.68 - (.0019 x V)
Electric storage water heaters (excluding tabletop water heaters)	≤ 55	0.97 - (.00132 x V)	0.960 - (0.0003 x V)
	> 55		2.057 - (0.00113 x V)
Electric <u>T</u> tabletop water heaters	Any	0.93 - (.00132 x V)	0.93 - (.00132 x V)
Gas-fired instantaneous water heaters	Any	0.62 - (.0019 x V)	0.82 - (.0019 x V)
Electric instantaneous water heaters (excluding tabletop water heaters)	Any	0.93 - (.00132 x V)	0.93 - (.00132 x V)
Heat pump water heaters	Any	0.97 - (.00132 x V)	0.97 - (.00132 x V)
V = Rated storage volume in gallons.			

These 15-day language changes were suggested by stakeholders and reflect the current federal standards as found in 10 C.F.R. § 430.32. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations. In the 15-day language the capital “T” in “Tabletop” should have been underlined to indicate the “t” was being changed to “T”. This error will be corrected for final publication. The correction is non-substantive as it is clear from the striking out of the lower case “t” that it is being replaced with the capital “T”. It was also unclear if the double strikeout extended to the “)”. For clarity the term “storage” is enclosed with a “)”. This non-substantive change ensures the correct underlining of parentheses.

(k) Lamps.

2. The standards specified in Table K-3 shall not apply to the following types of incandescent reflector lamps:

- a. Lamps rated at 50 watts or less that are ER30, BR30, BR40, or ER40;
- b. Lamps rated at 65 watts that are BR30, BR40, or ER40 lamps; ~~and~~
- c. R20 incandescent reflector lamps rated 45 watts or less; and
- d. R20 short lamps.

In the 15-day language subsection (d) was added which states, “R20 short lamps. Because of the addition of subsection d, “and” should have been added to the end of subsection c and removed from subsection b. The final regulatory language will show these grammatical corrections which do not affect the regulatory meaning of the text.

(n) Luminaires and Torchieres.

METAL HALIDE LAMP FIXTURES [footnotes to table N-1]

† Includes 150 W fixtures specified in 10 C.F.R. section 431.326 paragraph (b)(3), that are fixtures rated only for 150 W lamps; rated for use in wet locations, as specified by the NFPA 70 (incorporated by reference, see 10 C.F.R. § 431.323), section 410.4(A); and containing a ballast that is rated to operate at ambient air temperatures above 50 °C, as specified by UL 1029 (incorporated by reference see 10 C.F.R. § 431.323).

~~† Excludes 150 W fixtures specified in paragraph (b)(3) of this section, that are fixtures rated only for 150 W lamps; rated for use in wet locations, as specified by the NFPA 70, section 410.4(A); and containing a ballast that is rated to operate at ambient air temperatures above 50 °C, as specified by UL 1029.~~

As discussed in the supplemental ISOR, metal halide lamp fixtures (or luminaires) are covered by both federal and state standards depending on the wattage. The language ensures the correct range of wattages covered by state and federal standards are properly articulated in the regulations and in the correct sections with cross references, (1605.1 and 1605.3). The federal language corresponds to 10 C.F.R. § 431.326.

To ensure clarity as to the wattages covered by state and federal standards, language changes are necessary. The deleted language is being removed from the federal section of the regulations as these metal halide products are state regulated. The added language represents language from the 10 C.F.R. section 431.326 related to wattages under 150 watts and greater than 500 watts. Standards for lamps between 150 watts and 500 watts are covered by state standards under section 1605.3(n). In addition, standards for manufactured lamps after January 1, 2010 and before February 10, 2017 are covered by state standards section 1605.3(n). These state standards are exempt from preemption under 42 U.S.C § 6295 (ii)(2) and 6297(c)(9) until federal standards for those products take effect.

These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California's regulations. Additional changes made to the text after adoption are not substantive and include correcting section numbering and lettering and references to subsections. Full citations to the C.F.R. were also added. Footnote symbols were corrected as the 15-day language text showed the same symbol, "†" for two different footnotes. The correct symbol should have been a "‡".

The second footnote is not necessary because it applies to wattage ranges covered by state regulations under 1605.3. Therefore the second footnote has been eliminated and only the first footnote designated by the "†" has been retained and corresponds to the text in the table.

Consistent with the supplemental ISOR, the lettering and numbering of the subsections were modified for greater consistency with the existing Title 20 structure. This change has no regulatory effect as numbers were interchanged with letters but regulatory text remained the same.

(p) Clothes Washer.

(3) Commercial Clothes Washers. Commercial clothes washers manufactured on or after the effective dates shown shall have a modified energy factor not less than, and a water factor not greater than, the applicable values shown in Table P-3.

**Table P-3
Standards for Commercial Clothes Washers**

<i>Appliance</i>	<i>Minimum Modified Energy Factor</i>		<i>Maximum Water Factor</i>	
	<i>Effective January 1, 2007</i>	<i>Effective January 8, 2013</i>	<i>Effective January 1, 2007</i>	<i>Effective January 8, 2013</i>
Top-loading clothes washers	1.26	1.60	9.5	8.5
Front-loading clothes washers	1.26	2.00	9.5	5.5
	<i>Modified Energy Factor (MEF) Cu. ft./kWh/cycle</i>		<i>Integrated Water factor (IWF) gal./cu./cycle</i>	
	<i>Effective January 1, 2018</i>		<i>Effective January 1, 2018</i>	
<u>Top-loading clothes washers</u>	<u>1.35</u>		<u>8.8</u>	
<u>Front-loading clothes washers</u>	<u>2.00</u>		<u>4.1</u>	

These changes were suggested by stakeholders and reflect the current federal standards as found in 10 C.F.R. § 430.32. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

(u) Power Supplies.

(D) Direct operation external power supplies manufactured on or after February 10, 2016, shall meet the standards in Table U-2 with the exception of those described in subpart (i) and (ii) of this section.

**Table U-2
Federal Standards for Direct Operation External Power Supplies**

Single-Voltage External AC-DC Power Supply, Basic-Voltage		
<u>Nameplate Output Power</u> <u>(P_{out})</u>	<u>Minimum Average Efficiency</u> <u>in Active Mode (expressed as</u> <u>a decimal)</u>	<u>Maximum Power in No-Load</u> <u>Mode [W]</u>
$P_{out} \leq 1 \text{ W}$	$\geq 0.5 \times P_{out} + 0.16$	≤ 0.100
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.071 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.67$	≤ 0.100
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.880	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Single-Voltage External AC-DC Power Supply, Low-Voltage		
<u>Nameplate Output Power</u> <u>(P_{out})</u>	<u>Minimum Average Efficiency</u> <u>in Active Mode (expressed as</u> <u>a decimal)</u>	<u>Maximum Power in No-Load</u> <u>Mode [W]</u>
$P_{out} \leq 1 \text{ W}$	$\geq 0.517 \times P_{out} + 0.087$	≤ 0.100
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.0834 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.609$	≤ 0.100
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.870	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Single-Voltage External AC-AC Power Supply, Basic-Voltage		
<u>Nameplate Output Power</u> <u>(P_{out})</u>	<u>Minimum Average Efficiency</u> <u>in Active Mode (expressed as</u> <u>a decimal)</u>	<u>Maximum Power in No-Load</u> <u>Mode [W]</u>
$P_{out} \leq 1 \text{ W}$	$\geq 0.5 \times P_{out} + 0.16$	≤ 0.210
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.071 \times \ln(P_{out}) - 0.0014 \times P_{out} + 0.67$	≤ 0.210
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.880	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Single-Voltage External AC-AC Power Supply, Low-Voltage		
<u>Nameplate Output Power</u> <u>(P_{out})</u>	<u>Minimum Average Efficiency</u> <u>in Active Mode (expressed as</u> <u>a decimal)</u>	<u>Maximum Power in No-Load</u> <u>Mode [W]</u>
$49 \text{ W} < P_{out} \leq 250 \text{ W}$	≥ 0.870	≤ 0.210
$P_{out} > 250 \text{ W}$	≥ 0.875	≤ 0.500
Multiple-Voltage External Power Supply		
<u>Nameplate Output Power</u> <u>(P_{out})</u>	<u>Minimum Average Efficiency</u> <u>in Active Mode (expressed as</u> <u>a decimal)</u>	<u>Maximum Power in No-Load</u> <u>Mode [W]</u>
$P_{out} \leq 1 \text{ W}$	$\geq 0.497 \times P_{out} + 0.067$	≤ 0.300
$1 \text{ W} < P_{out} \leq 49 \text{ W}$	$\geq 0.075 \times \ln(P_{out}) + 0.561$	≤ 0.300
$P_{out} > 49 \text{ W}$	≥ 0.860	≤ 0.300

(1) An external power supply shall not be subject to the standards in Table U-2 if it is a device that requires Federal Food and Drug Administration (FDA) listing and approval as a medical device in accordance with section 513 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 360(c)).

(2) A direct operation, AC-DC external power supply with nameplate output voltage less than 3 volts and nameplate output current greater than or equal to 1,000 milliamps that charges the battery of a product that is fully or primarily motor operated shall not be subject to the standards in Table U-2.

These changes were suggested by stakeholders and reflect the current federal standards as found in 10 C.F.R. § 430. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

NATIONAL ELECTRIC CODE (NEC)

NFPA 70 (2002)

National Electrical Code section 410.4(A)

Copies available from:

National Fire Protection Association
1 Batterymarch
Park Quincy, MA 02169-7471
www.nfpa.org
Phone: (617) 770-3000
FAX: (617) 770-0700

UNDERWRITERS LABS (UL)

UL 1029-2001

Standard for High-Intensity-Discharge Lamp Ballasts

Copies available from:

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096
www.ul.com
Phone: (847) 272-8800
FAX: (847) 272-8129

Currently, NFPA 70 and UL 1029 are identified as documents incorporated by reference in the C.F.R. but are not listed at the end of section 1605.1 as documents incorporated by reference. To improve the ease of finding references within the Commission’s regulations, both the NFPA 70 and UL 1029 references have been added to the list of documents incorporated by reference at the end of section 1605.1. This change does not have any regulatory effect because both references originate from federal standards, are already in effect and the citations to these references are in the existing Title 20 regulations. In addition, these two documents were identified in the original NOPA as documents incorporated by reference.

Section 1605.2. State Standards for Federally-Regulated Appliances.

In the 15-day language, the heading of section 1605.2 incorrectly stated, “Non-Federally-Regulated”. “Non” was included by error and the status quo language of the California Code of Regulations, “Federally-Regulated” is the correct term. This error will be corrected in the final language for publication.

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

(1) See section 1605.1(j) for energy efficiency standards for fluorescent lamp ballasts that are federally regulated consumer products.

(2) See section 1605.3(j) for energy efficiency standards for deep dimming fluorescent lamp ballasts that are state regulated.

This 15-day language change is necessary to correctly cross reference the new standards covering state regulated deep dimming fluorescent lamp ballasts.

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

The Authority and Reference section noted in the 15-day language incorrectly stated an older version of the text and not the current language found in the California Code of Regulations. This error will be corrected in the final language for publication.

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

...

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

(1) Energy Efficiency Standard for Wine Chillers. The energy consumption of wine chillers designed and sold for use by an individual shall be no greater than the applicable values shown in Table A-~~9~~11.

**Table A-~~9~~11
Standards for Wine Chillers**

...

(1) Energy Efficiency Standard for Freezers. The energy consumption of freezers that exceed 30 ft³, do not exceed 39 ft³, are designed and sold for use by an individual consumer, and are manufactured on or after March 1, 2003, shall be no greater than the applicable values shown in Table A-~~10~~12.

**Table A-~~10~~12
Standards for Freezers that are Consumer Products**

...

(5) Energy Efficiency Standards for Wine Chillers That Are Not Consumer Products and That Are Manufactured Before January 1, 2012. The daily energy consumption of wine chillers that are not consumer products manufactured on or after the effective dates shown and before January 1, 2012, shall be no greater than the applicable values shown in Table A-~~11~~13.

**Table A-~~11~~13
Standards for Wine Chillers that are Not
Consumer Products and That Are Manufactured Before January 1, 2012**

To reflect insertions of additional tables the numbers need to be changed. This is a change without regulatory effect.

...

~~(6) Energy Efficiency Standard for Refrigerated Canned and Bottled Beverage Vending Machines:~~

~~(A) The daily energy consumption of refrigerated canned and bottled beverage vending machines, manufactured on or after January 1, 2006 and before August 31, 2012 shall be no greater than the applicable values shown in Table A-12:~~

~~(B) See section 1605.1(a)(6) for energy consumption standards for refrigerated canned and bottled beverage vending machines manufactured on or after August 31, 2012:~~

~~(7) Energy Design Standard for Refrigerated Canned and Bottled Beverage Vending Machines:~~ Refrigerated canned and bottled beverage vending machines manufactured on or after January 1, 2006 and before August 31, 2012 shall be equipped with hard wired controls or software capable of automatically placing the machine into each of the following low power mode states and of automatically returning the machine to its normal operating conditions at the conclusion of the low power mode:

~~(A) Lighting low power state—lights off for an extended period:~~

~~(B) Refrigeration low power state—the average beverage temperature is allowed to rise above 40°F for an extended period of time:~~

~~(C) Whole machine low power state—the lights are off and the refrigeration operates in its low power state:~~

~~The low power mode related controls/software shall be capable of on-site adjustments by the vending operator or machine owner:~~

~~Table A-12
Standards for Refrigerated Canned and Bottled Beverage Vending Machines
Manufactured On or After January 1, 2006 and Before August 31, 2012~~

Appliance	Doors	Maximum Daily Energy Consumption (kWh)	
		January 1, 2006	January 1, 2007
Refrigerated canned and bottled beverage vending machines when tested at 90°F ambient temperature except multi-package units	Not applicable	0.55(8.66 + (0.009 × C))	0.55(8.66 + (0.009 × C))
Refrigerated multi package canned and bottled beverage vending machines when tested at 75°F ambient temperature	Not applicable	0.55(8.66 + (0.009 × C))	0.55(8.66 + (0.009 × C))
V = total volume (ft³) AV = Adjusted Volume = [1.63 × freezer volume (ft³)] + refrigerator volume (ft³) C = Rated capacity (number of 12 ounce cans)			

These changes reflect the deletion of obsolete language from the state standards for non-federally regulated appliances section because federal standards for these appliances are already in effect and stated in section 1605.1.

(~~8~~6) Energy Efficiency Standard for Water Dispensers. The standby energy consumption of bottle-type water dispensers, and point of use water dispensers, dispensing both hot and cold water, manufactured on or after January 1, 2006, shall not exceed 1.2 kWh/day.

(~~9~~7) Other Refrigeration Equipment. See section 1605.1(a) for energy efficiency standards for refrigerators, refrigerator-freezers, and freezers.

These changes reflect alignment with the existing numbers. Existing numbers were removed and replaced with new numbers. This is a change without regulatory effect.

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

(1) Energy Efficiency Standards for Ground Water-Source Heat Pumps and Ground-Source Heat Pumps. The EER and COP for ground water-source heat pumps and ground-source heat pumps manufactured on or after October 29, 2003, shall be not less than the applicable values shown in Table C-~~7~~9

Table C-~~7~~9
Standards for Ground Water-Source and Ground-Source Heat Pumps

...

(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, shall be not less than the applicable values shown in Table C-~~8~~10.

...

Table C-~~8~~10
Standards for Evaporatively Cooled Computer Room Air Conditioners

The 15-day language showed the table numbers increasing by one number. But this erroneously caused there to be two tables labeled as 8 due to insertion of additional tables in subsection (c) of section 1605.1. Therefore to ensure consecutive numbered tables, the numbers have been edited in section 1605.3. This is a change without regulatory effect as the content of the tables has remained the same and no public notice is necessary.

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

(~~2~~) See section 1605.1(j) for energy efficiency standards for fluorescent lamp ballasts that are federally regulated consumer products.

As originally noticed in the 45-day language the entire sentence is underlined which is incorrect since the language already exists in the California Code of Regulations. Because subsection (1) is being added, only the "(2)" should have been underlined indicating it was new text. In the 15-day language text, the subsections of (j)(1) were labeled as (i), (ii), and (iii). OAL recommended that those Roman numerals be replaced in the final text for publication with "(A)", "(B).", and "(C)".

(u) Power Supplies.

The efficiency in the active mode of state-regulated external power supplies, manufactured on or after the effective dates shown 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 dates when tested at 115 volts at 60 Hz, shown shall be not greater than the applicable values shown in Table U-~~23~~ and Table U-~~34~~.

EXCEPTION to section 1605.3(u): A power supply that is made available by a manufacturer directly to a consumer or to a service or repair facility after and separate from the original sale of the product requiring the power supply as a service part, or spare part shall not be required to meet the Standards for Power Supplies in Table U-~~23~~ and Table U-~~34~~ until five years after the effective dates indicated in Table U-~~23~~ and Table U-~~34~~.

Table U-~~23~~
Standards for State-Regulated External Power Supplies
Effective January 1, 2007 for external power supplies used with laptop computers, mobile phones, printers, print servers, scanners, personal digital assistants (PDAs), and digital cameras.

Effective July 1, 2007 for external power supplies used with wireline telephones and all other applications.

Table U-~~34~~
Standards for State-Regulated External Power Supplies
Effective July 1, 2008

Changes reflect new table numbering due to insertion of additional tables. These are changes without regulatory effect.

Section 1606. Filing by Manufacturers; Listing of Appliances in Database.

In 1606 Table X subsection (A) erroneously left out the terms, “or without” and “with or” which are current language in the California Code of Regulations. This error will be corrected for final publication. (See bolded italicized language below.)

Self-contained Commercial Refrigerators with or without doors, Self-contained Commercial Refrigerator-Freezers with ***or without*** doors, Self-contained Commercial Freezers with or without doors, Self-contained Commercial Refrigerators specifically designed for display and sale of bottled or canned beverages ***with or*** without doors, Remote Condensing Commercial Refrigerators, Remote Condensing Commercial Freezers, Commercial Ice Cream Freezers

In this same section, within the column titled, “Required Information” there is a provision “*Defrost System”. In the 15-day language the “*” was inadvertently underlined. Since the “*” is existing language in Title 20, underlining is not necessary. The “*” simply indicates that Defrost System is identifier information as described in section 1602(a).

Neither correction described above has regulatory effect requiring 15-day language. The missing text is existing Title 20 language and there was no indication the language was to be removed. In addition, the text is from existing federal standards which cover the testing and data collection of commercial refrigerators. The “*” categorizes the associated term, in this

case “Defrost System”, as identifiers which under section 1602(a) means an appliance feature that is used to designate a specific model. Regardless of whether there is a “*” or not, the permissible answers to the type of defrost system are the same.

Table X Data Submittal Requirements

Automatic Commercial Ice-Makers	Ice Maker Process Type	Batch, continuous, <u>cube</u> , other (specify)
---------------------------------	------------------------	--

These changes were suggested by stakeholders and reflect the current federal standards as found in 10 C.F.R. § 430.32. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in California’s regulations.

Table X Data Submittal Requirements

Air-Source, Single Package Heat Pumps < 65,000 Btu/hour and	Seasonal Energy Efficiency Ratio (SEER)	
	Cooling Capacity at 82°F ³	
	Electrical Input at 82°F ³	
	Degradation Coefficient at 82°F ³	
	Cooling Capacity at 95°F	
	Electrical Input at 95°F	
Air-Source Split System Heat Pumps < 65,000 Btu/hour	Energy Efficiency Ratio (EER) at 95°F	
	Average Off Mode Power Consumption (Watts) (for models manufactured on or after January 1, 2015 only)	
	Heating Seasonal Performance Factor (HSPF) ₃	
	Heating Capacity	
	Electrical Input	
	Coefficient of Performance (COP) at 47°F (single package vertical heat pumps only)	
	Space-constrained Product	Space-constrained; through-the-wall <u>variable-speed mini-split</u> ; small duct, high velocity; not space-constrained

In the 15-day language the phrase, *Average Off Mode Power Consumption (Watts)* was shown as underlined text (see bold text above). This was an error as the phrase is existing language in the California Code of Regulations and should not have been underlined. The remaining text, *(for models manufactured on or after January 1, 2015 only)* is also existing language and is shown here.

Table X Data Submittal Requirements

	Appliance	Required Information	Permissible Answers
C	Air Filters	<u>Air filter sizes tested</u>	<u>Small, medium, and large</u>
		<u>Minimum Efficiency Reporting Value (MERV)</u>	<u>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 N/A</u>
		<u>Particle Size Efficiency for 0.3 to 1.0 µm particle size</u>	
		<u>Particle Size Efficiency for 1.0 to 3.0 µm particle size</u>	
		<u>Particle Size Efficiency for 3.0 to 10.0 µm particle size</u>	
		<u>Test Procedure used to determine air filter efficiency performance</u>	<u>AHRI 680-2009, or ASHRAE 52.2-2012</u>
		<u>Air Filter Length</u>	
		<u>Air Filter Width</u>	
		<u>Air Filter Depth</u>	
		<u>Air Filter Face Area</u>	
		<u>Face Velocity Utilized for the test procedure</u>	<u>N/A for AHRI 680 or V value in feet per minute for ASHRAE 52.2 or N/A</u>
		<u>Airflow Rate value 1</u>	
		<u>Airflow Rate value 2</u>	
		<u>Airflow Rate value 3</u>	
		<u>Airflow Rate value 4</u>	
		<u>Airflow Rate value 5-Maximum Rated Airflow Rate</u>	
		<u>Initial Resistance at 400 cubic feet per minute (cfm) air flow rate value 1</u>	<u>Test results to one-hundredths of an Inch of Water Column</u>
		<u>Initial Resistance at 800 cubic feet per minute (cfm) airflow rate value 2</u>	<u>Test results to one-hundredths of an Inch of Water Column</u>
<u>Initial Resistance at 1,200 cubic feet per minute (cfm) unless maximum rated airflow rate (as published by the manufacturer) is less than</u>	<u>Test results to one-hundredths of an Inch of Water Column</u>		

	1,200 cfm airflow rate value 3	
	Initial Resistance at 1,600 cubic feet per minute (cfm) unless maximum rated airflow rate (as published by the manufacturer) is less than 1,600 cfm airflow rate value 4	<u>Test results to one-hundredths of an Inch of Water Column</u>
	Initial Resistance at 2,000 cubic feet per minute (cfm) or the maximum rated airflow rate as published by the manufacturer airflow rate value 5	<u>Test results to one-hundredths of an Inch of Water Column</u>
	Final Resistance at 2,000 cubic feet per minute (cfm) or the maximum rated airflow rate as published by the manufacturer the point where test is terminated and results determined	<u>Test results to one-hundredths of an Inch of Water Column</u>
	<u>Dust Holding Capacity at the maximum rated airflow rate as published by the manufacturer</u>	<u>Test results in multiples of one gram.</u>
	Airflow Rate value determined at an Initial Resistance of 0.1 Inch of Water Column Test Procedure used to determine air filter dust holding capacity	AIHRI 680-2009, or ASHRAE 52.2-2012

Table X was updated in the 15-day language to reflect comments by stakeholders regarding the ability to test sample filter sizes and extrapolate performance standards for non-tested sizes. Staff determined, based on existing analysis found at pages 9-14 in the staff report titled *Staff Analysis of HVAC Air Filters, Dimming Fluorescent Ballasts, and Heat Pump Water Chilling Packages*, California Energy Commission, Publication Number: CEC-400-2015-007, that sampling protocol would be appropriate to ensure energy savings while simplifying the testing protocol.

In Table X section (g) Other Pool Heaters, the 15-day language showed the following text as stricken out: *Readily accessible on-off switch* and *Yes, no*. This language has no regulatory effect because it is not language currently in the California Code of Regulations and therefore should be removed from the express terms for final publication.

Table X Data Submittal Requirements

	Appliance	Required Information	Permissible Answers
J	Fluorescent Lamp Ballasts	*Ballast Input Voltage	120, 277, <u>between 120 and 277</u> , other (specify)
		*Number of Lamps	
		*Type of <u>Fluorescent Lamp</u>	F34T12, F40T12, F96T12, F96T12/ES, F96T12HO, F96T12HO/ES, other T12 (specify); T5, T8, other (specify) <u>2-foot U-shaped, 4-foot medium bipin, 4-foot miniature bipin high output, 4-foot miniature bipin standard output, 8-foot high output, 8-foot slim line</u>
		Designed for Dimming <u>Product Class (from U.S. DOE CCMS product template)</u>	Continuous, stepped, no
		Designed for Dimming to 50% or Less of Maximum Output	Continuous, stepped, Yes, no
		Power Factor	
		* <u>Building Application</u>	Designed but not labeled for use only in residential buildings; designed and labeled for use only in residential buildings; commercial, designed (not classified as sign ballasts) to operate 8-foot high output lamps, designed and labeled as sign ballasts to operate 8-foot high output lamps, residential; not classified as residential, other
		Designed for Use in Ambient Temperatures of $\leq 0^{\circ}\text{F}$ <u>Sign Ballast</u>	Yes, no
		Designed for Use (a) at Ambient Temperatures $\leq -20^{\circ}\text{F}$ and (b) in an Outdoor Sign (for models with two F96T12HO lamps only)	Yes, no
		Replacement Ballast as Defined in section 1602(j)	Yes, no
		Maximum Input Power <u>Watts</u>	
		Minimum Input <u>Watts</u>	
		Ballast Efficacy Factor <u>Luminous Efficiency</u>	
		Relative Light Output	
		Circuit Design	Cathode cut-out, electronic, magnetic
		* <u>Start</u>	Instant, <u>programmed</u> , rapid
<u>Ballast Frequency</u>	<u>High frequency, low frequency, other</u>		
<u>Average Total Lamp Arc Power</u>			

* "Identifier" information as described in section 1602(a).

1 = Voluntary for federally regulated appliances

2 = Voluntary for state-regulated appliances

These changes were made to enhance clarity of the regulations. The table previously asked manufacturers to report the "integrated ballast luminous efficacy" whereas section 1604 calls for "weighted ballast luminous efficacy" to be calculated. The change to the language creates consistency between the two sections. In addition, because BLE 80 and BLE 50 are necessary to

calculate the weighted ballast luminous efficacy, it was determined that reporting these values is necessary for compliance verification.

In the 15-day language the information contained in Table J Fluorescent Lamp Ballasts, was consistent with the current regulations found in the California Code of Regulations, but the order of information going down the columns was different. The order for final publication will be changed to match the order in the existing regulations. Since the order does not matter, this change has no regulatory effect. For the Requested Information, “Designed for Dimming to 50% or Less of Maximum Output” the 15-day language had the permissible answer as underlined text of “Yes, no”. The existing title 20 language, “Continuous, stepped” was erroneously left out. The corrected changes are shown in the table as double strikeout. The correction is non-substantive as dimming ballasts are federally regulated products with existing required data responses. In addition, the 15-day language correctly indicated the logical responses of “yes or no” to the information requested.

Section 1607. Marking of Appliances.

(c) Energy Performance Information.

(8) External Power Supplies.

(A) Any federally regulated external power supply ~~external power supply manufactured on or after July 1, 2008~~ shall be clearly and permanently marked in accordance with the ~~External Power Supply International Efficiency Marking Protocol, as referenced in the 'Energy Star Program Requirements for Single Voltage External AC DC and AC AC Power Supplies, version 1.1' published by the Environmental Protection Agency~~ International Efficiency Marking Protocol for External Power Supplies, Version 3.0, September 2013.

(B) Any state-regulated external power supply complying with the requirements of section 1605.3(u) shall be clearly and permanently marked in accordance with the ~~External Power Supply International Efficiency Marking Protocol, as referenced in the 'Energy Star Program Requirements for Single Voltage External AC DC and AC AC Power Supplies, version 1.1' published by the Environmental Protection Agency~~ International Efficiency Marking Protocol for External Power Supplies, Version 3.0, September 2013.

...

These changes were suggested by the stakeholders and reflect the federal marking requirements as found in 10 C.F.R. § 430.32. These changes will provide regulatory certainty with respect to the accurate inclusion of federal regulatory language in the California regulations. For consistency, similar provisions for state-regulated external power supplies were incorporated for those products to avoid any potential manufacturer confusion.

The current California Code of Regulations contains an error in 8(A) in which the phrase, “external power supply” is used twice in a row so the text reads, “Any federally regulated external power supply external power supply...” This error was also captured in the 15-day language. The duplication will be corrected in the final version of the regulations that will be published so the sentence correctly reads “Any federally regulated external power supply...” Because the duplicated language has no regulatory effect, removal is clerical in nature.

The following documents are incorporated by reference in section 1607.

Number

Title

FEDERAL MARKING REQUIREMENTS

C.F.R., Title 16, part 305

Copies available from:

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402
<http://ecfr.gpoaccess.gov/>

International Efficiency Marking
Protocol for External Power Supplies,
Version 3.0, September 2013 ~~Energy
Star Program Requirements for
Single Voltage External AC-DC and
AC-AC Power Supplies, version 1.1~~

Copies available from:

~~US EPA
Climate Protection Partnership
ENERGY STAR Programs Hotline &
Distribution
(MS-6202J)
1200 Pennsylvania Ave NW
Washington, DC 20460
www.energystar.gov~~

U.S. Department of Energy
Office of Energy Efficiency and
Renewable Energy, Forrestal
Building, Mail Station EE-2J,
1000 Independence Avenue, SW.,
Washington, DC 20585-0121
[http://www.regulations.gov/content
Streamer?documentId=EERE-2008-
BTSTD00050218&disposition=attach
ment&contentType=pdf](http://www.regulations.gov/contentStreamer?documentId=EERE-2008-BTSTD00050218&disposition=attachment&contentType=pdf)

Changes reflect the most recent publications and information incorporated into the external power supply marking requirements.

ATTACHMENT A
RESPONSE TO COMMENTS