

DOCKETED

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Via E-mail

Mr. Harrinder Singh
California Energy Commission
Docket No. 15-AAER-1
Docket Unit
1516 Ninth Street, Mail Station 4
Sacramento, CA 95814-5504

docket@energy.state.ca.gov

Re: Docket No. 15-AAER-1 – *Proposed Amendments to Appliance Efficiency Regulations*

Dear Mr. Singh:

The Association of Home Appliance Manufacturers (AHAM) would like to comment on the *Proposed Amendments to Appliance Efficiency Regulations* (Docket 15-AAER-1). AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. The factory shipment value of these products is more than \$30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

We have reviewed the California Energy Commission (CEC) Appliance Efficiency regulations and provide the following comments. As an overall comment, the Department of Energy (DOE) is in a rulemaking for "Miscellaneous Refrigeration Products." Among other matters, DOE has proposed changes to definitions for refrigerators. These changing definitions highlight the importance of CEC simply referencing the federal regulations to ensure continuity and clarity. Our comments below reflect this overarching principle. It would provide even less confusion if CEC would cite the federal regulations generally to just 10 C.F.R., part 430, so that DOE's changes to Appendices and placement of definitions would be automatically captured. We have also removed citations to older levels and Appendices to reduce confusion, with the understanding that these products in inventory can still be sold if manufactured prior to the earlier date.

A. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Adjusted Total Volume

For the definition of "adjusted total volume," the reference to Appendix A1 is no longer required. AHAM proposes the following revision:

“Adjusted total volume” means the sum of (i) the fresh food compartment volume as defined in 10 C.F.R. part 430, Appendix A to Subpart B or 10 C.F.R. part 430, Appendix A1 to Subpart B in cubic feet, and (ii) the product of an adjustment factor and the net freezer compartment volume as defined in 10 C.F.R., part 430, Appendix A to Subpart B or 10 C.F.R. part 430, Appendix A1 to Subpart B in cubic feet.

B. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of All-refrigerator

CEC’s definition of “All-refrigerator” should simply cite the DOE definition. The Miscellaneous Refrigerator Product current rulemaking could change this definition and its location in the federal regulations. AHAM proposes the following revision:

“All-refrigerator” means an electric refrigerator as defined in 10 C.F.R., part 430 which does not include a compartment for the freezing and long time storage of food at temperatures below 32°F. (0.0°C.). It may include a compartment of 0.50 cubic feet capacity (14.2 liters) or less for the freezing and storage of ice.

C. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Anti-Sweat Heater

CEC’s definition of “Anti-sweat heater” should simply cite the DOE definition. AHAM proposes the following revision:

“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 under conditions of high ambient humidity.

D. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Built-in Freezer, Built-in Refrigerator and Built-in Refrigerator-Freezer

CEC’s definitions of “Built-in freezer,” “Built-in refrigerator” and “Built-in refrigerator-freezer” should simply cite the DOE definition. The Miscellaneous Refrigerator Product current rulemaking could change this definition again. AHAM proposes the following revision:

“Built-in refrigerator/refrigerator-freezer/freezer” means any refrigerator, refrigerator-freezer or freezer as defined in 10 C.F.R., part 430, Subpart A, with 7.75 ft³ or greater total volume and 24 inches or less depth not including doors, handles, and custom front panels; with sides which are not finished and not designed to be visible after installation; and that is designed, intended, and marketed exclusively to:

be installed totally encased by cabinetry or panels that are attached during installation, be securely fastened to adjacent cabinetry, walls or floor, and either be equipped with an integral factory finished face or accept a custom front panel.

“Built in refrigerator” means any refrigerator with 7.75 ft³ or greater total volume and 24 inches or less depth not including doors, handles, and custom front panels; with sides which are not finished and not designed to be visible after installation; and that is designed, intended, and marketed exclusively to:

be installed totally encased by cabinetry or panels that are attached during installation, be securely fastened to adjacent cabinetry, walls or floor, and either be equipped with an integral factory finished face or accept a custom front panel.

~~“Built in refrigerator freezer” means any refrigerator freezer with 7.75 ft³ or greater total volume and 24 inches or less depth not including doors, handles, and custom front panels; with sides which are not finished and not designed to be visible after installation; and that is designed, intended, and marketed exclusively to:~~

- ~~(1) be installed totally encased by cabinetry or panels that are attached during installation,~~
- ~~(2) be securely fastened to adjacent cabinetry, walls or floor, and~~
- ~~(3) either be equipped with an integral factory finished face or accept a custom front panel.~~

E. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Compact Freezer, Refrigerator, Refrigerator-Freezer

CEC should update the definition of “compact freezer,” “compact refrigerator,” and “compact refrigerator-freezer” by eliminating the requirements for products manufactured before September 15, 2014. AHAM proposes the following revision:

“Compact refrigerator” means a refrigerator 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.~~

“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.~~

ADD Definition: “Compact freezer” means a freezer that has total volume less than 7.75 ft³ as determined using 10 C.F.R., part 430, Appendix B of Subpart B.

F. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Drawer

The definition of “drawer unit” is unique to CEC. It is not a recognized DOE product class and, therefore, this definition should be eliminated. CEC should use DOE’s naming conventions as the CEC names are not considered in determining compliance.

G. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Freezer

CEC’s definition of “freezer” should simply cite the DOE definition. The Miscellaneous Refrigerator Product current rulemaking could change this definition again. AHAM proposes the following revision:

“Freezer” means a cabinet that [has a source of refrigeration as defined in 10 C.F.R., part 430, Subpart A](#) is designed as a unit for the freezing and storage of food, beverages, or ice at temperatures of 0°F or below and that has a source of refrigeration requiring an energy input.

H. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Freezer Volume

For the definition of “freezer volume,” the reference to Appendix B1 is no longer required. AHAM proposes the following revision:

“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.~~

I. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Internal Freezer Refrigerator

The definition of “internal freezer refrigerator” is unique to CEC. It is not a recognized DOE product class and, therefore, this definition should be eliminated. CEC should use DOE’s naming conventions as the CEC names are not considered in determining compliance.

J. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Kitchen Units

The definition of “kitchen unit” is unique to CEC. It is not a recognized DOE product class and, therefore, this definition should be eliminated. CEC should use DOE’s naming conventions as the CEC names are not considered in determining compliance.

K. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Refrigerator

CEC’s definition of “refrigerator” should simply cite the DOE definition. The Miscellaneous Refrigerator Product current rulemaking could change this definition again. AHAM proposes the following revision:

“Refrigerator” means a cabinet that [has a source of refrigeration as defined in 10 C.F.R., part 430, Subpart A](#) is designed for the refrigerated storage of food, including but not limited to solid food and wine, beer, and other beverages, at temperatures above 32°F, and that has a source of refrigeration requiring an energy input. It may include a compartment for the freezing and storage of food at temperatures below 32°F, but it does not provide a separate low temperature compartment designed for the freezing and storage of food at temperatures below 8°F.

L. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Refrigerator Compartment

CEC’s definition of “refrigerator compartment” does not include the DOE requirement that the unit must be able to operate at below 39 °F. Other places in the CEC document do reference the 39 °F requirement. AHAM proposes the following revision:

“Refrigerator compartment” means a compartment designed for the refrigerated storage of food, including but not limited to solid food and wine, beer, and other beverages, at temperatures above 32°F [and below 39 °F.](#)

M. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Refrigerator-Freezer

CEC's definition of "refrigerator-freezer" should simply cite the DOE definition. The Miscellaneous Refrigerator Product current rulemaking could change this definition again. AHAM proposes the following revision:

"Refrigerator-freezer" means a cabinet that [has a source of refrigeration as defined in 10 C.F.R., part 430, Subpart A](#) consists of two or more compartments with at least one of the compartments designed for the refrigerated storage of food, including but not limited to solid food and wine, beer, and other beverages, at temperatures above 32°F; has at least one of the compartments designed for the freezing and storage of food or ice at temperatures below 8°F that may be adjusted by the user to a temperature of 0°F or below; and has a source of refrigeration requiring an energy input.

N. Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definition of Undercounter Cabinet

The definition of "undercounter cabinet" is unique to CEC. It is not a recognized DOE product class and, therefore, this definition should be eliminated. CEC should use DOE's naming conventions as the CEC names are not considered in determining compliance.

O. Section 1602. Definitions; (o) Dishwashers

For the definition of compact and standard dishwashers, when referencing the current federal regulation, the reference should be to Appendix C1, not Appendix C. Appendix C1 has been mandatory since May 2013. This appears in the definition section and the test method section. The wording of the definition should be identical to DOE Appendix C1 because Appendix C1 did effect the definition. For example, Appendix C1 definitions for "compact dishwasher" and "standard dishwasher" also require use of the test load specified in section 2.7, energy factor is no longer used, and "cycle" is different. Also, the reference to ANSI/AHAM DW-1 should be changed to ANSI/AHAM DW-1-2010. AHAM proposes the following revision:

"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.

P. Section 1602. Definitions; (o) Water Heating Dishwashers

CEC's definition of "water heating dishwasher" is different than DOE's definition. CEC should simply cite the DOE definition. AHAM proposes the following revision:

"Water heating dishwasher" means a dishwasher ~~that~~[which](#), as recommended by the manufacturer, is designed for heating cold inlet water [as defined in 10 C.F.R., part 430, Appendix C1 of Subpart B](#) (nominal 50°F) ~~or designed for heating water with a nominal inlet water temperature of 120°F. Any~~

dishwasher designated as water heating (50°F or 120°F inlet water) must provide internal water heating to above 120°F in at least one phase of the normal cycle.

Q. Section 1602; Incorporation by Reference

Under the AHAM part, HRF-1-2008 should be added and the dishwasher standard should be updated to DW-1-2010.

R. Section 1604. Test Methods for Specific Appliances; (d) Dehumidifiers

Regarding the test method for dehumidifiers, DOE recently finalized a change to re-designate Appendix X1 as Appendix X. (*See* 79 Fed. Reg. 7366 (Feb. 7, 2014)). DOE's rule is that manufacturers must use the active mode portions of the former Appendix X1 (re-designated as Appendix X) as of March 10, 2014, to certify compliance with the Federal standard. AHAM proposes the following revision:

~~10 C.F.R. section 430.23(z) (Appendix X to Subpart B of part 430) OR 10 C.F.R. section 430.23(z) (Appendix X1 to Subpart B of part 430) (at manufacturer's discretion) for models manufactured before April 29, 2013~~

10 C.F.R. section 430.23(z) (~~Appendix X1~~ [Appendix X \(active mode portion only\)](#) to Subpart B of part 430) ~~for models manufactured on or after April 29, 2013~~

S. Section 1604. Test Methods for Specific Appliances; (o) Dishwashers

Regarding the test method for dishwashers, the reference should be to Appendix C1, not Appendix C. Appendix C1 has been mandatory since May 2013. This appears in the definition section and the test method section. Also, the reference to ANSI/AHAM DW-1 should be changed to ANSI/AHAM DW-1-2010. AHAM proposes the following revision:

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

T. Section 1604. Test Methods for Specific Appliances; (p) Clothes Washers

Regarding the test method for clothes washers, the reference should be to Appendix J2, not Appendix J1. Appendix J2 will be mandatory on or after March 7, 2015 (so before these regulation changes will be effective). AHAM proposes the following revision:

The test methods for clothes washers that are consumer products and commercial clothes washers is 10 C.F.R. section 430.23(j) (~~Appendix J1~~ [Appendix J2](#) to Subpart B of part 430)

U. Section 1604. Test Methods for Specific Appliances; (q) Clothes Dryers

Regarding the test method for clothes dryers, the reference should be to Appendix D1 or D2, not Appendix D. DOE and ENERGY STAR have created a confusing and unfortunate situation because ENERGY STAR required the use of Appendix D2 even though DOE required the use of Appendix D1. As a result, DOE has allowed the optional use of Appendix D2 for products manufactured on or after January 1, 2015. Therefore, either Appendix D1 or D2 may be used. AHAM proposes the following revision:

The test method for clothes dryers [as defined and described in](#) 10 C.F.R. section 430.23(d) (~~Appendix D~~ [Appendix D1](#) or [Appendix D2](#) to Subpart B of part 430).

V. Section 1604. Table A-1

Table A-1 can be updated. CEC has stated that thermoelectric models are covered by the CEC standard; however, the DOE test procedure that it references cannot test thermoelectric products (DOE standard refers to compressor cycling. Thermoelectric models do not have a compressor). If CEC wishes to cover thermoelectric wine chillers, then CEC needs to develop its own test procedure. AHAM proposes the following revision to Table A-1:

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

AHAM appreciates the opportunity to comment on the proposed amendments to the Appliance Efficiency regulations and would be glad to further discuss these matters with the Commission. Please contact me or Kevin Messner at kmessner@politicallogic.net.

Sincerely,



Robert McArver
Vice President, Policy & Government Relations