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Docket Number:	18-AAER-10
Project Title:	Amendments to Title 20 Appliance Efficiency Regulations Rulemaking
TN #:	224839
Document Title:	Final Statement of Reasons (FSOR)
Description:	Final Statement of Reasons for the Amendments to Title 20 Appliance Efficiency Regulations Rulemaking.
Filer:	Carlos Baez
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/1/2018 12:16:29 PM
Docketed Date:	10/1/2018

FINAL STATEMENT OF REASONS

AMENDMENTS TO THE APPLIANCE EFFICIENCY REGULATIONS California Code of Regulations, Title 20, Sections 1601 through 1609

California Energy Commission
Docket No. 2018-AAER-10
August 13, 2018

This document is the Final Statement of Reasons (FSOR) required by Government Code section 11346.9.

I. Introduction

California Code of Regulations, title 20, sections 1601 to 1609 (the Appliance Efficiency Regulations) contain definitions, test procedures, efficiency and design standards, and marking requirements for both federally regulated and state regulated appliances. The Appliance Efficiency Regulations require appliance manufacturers to certify to the Energy Commission that their products meet all applicable state and federal laws concerning testing, efficiency and design standards, and marking requirements before their products can be included in the Energy Commission's Modernized Appliance Efficiency Database System (MAEDbS) of approved appliances sold or offered for sale in California.

In this rulemaking, the Energy Commission proposes to amend the Appliance Efficiency Regulations to: (1) update the regulations to reflect current federal energy efficiency regulations; (2) change state-specific requirements; (3) update the regulations to reflect the use of MAEDbS, a new electronic database system; (4) update data reporting requirements; and (5) improve the clarity and readability of the regulations.

This rulemaking does not make changes to the underlying energy and water efficiency standards for any appliance or result in any changes in the estimated energy and water savings from those standards.

II. Procedural History

On January 13, 2016, the Energy Commission adopted an Order Instituting Rulemaking (OIR) proceeding to amend the Appliance Efficiency Regulations to ensure consistency with federal and state law, harmonize with the improved certification process in MAEDbS, and make other clarifying changes to improve the readability and functionality

of the Appliance Efficiency Regulations. The OIR sets forth that this rulemaking should not make changes to the underlying energy and water efficiency standards or result in any changes in the estimated energy and water savings from those standards.

On March 30, 2018, the Office of Administrative Law published a Notice of Proposed Action (NOPA) concerning the proposed amendments to the Appliance Efficiency Regulations in the California Notice Register. The Energy Commission posted the NOPA, the Proposed Regulatory Language (Express Terms), an Initial Statement of Reasons (ISOR) that explains the rationale for each amendment, and an Economic and Fiscal Impact Statement (Form 399) and Attachment that analyzes the potential effects of the proposed regulations on its website on March 30, 2018.

The NOPA designated June 13, 2018, as the date for the public hearing to consider adoption of the proposed regulations and specified a comment period of 45 days that ended on May 14, 2017. On April 24, 2018, the Energy Commission held a Lead Commissioner public meeting to hear comments on the proposed regulations. After review of the comments received during the 45-day comment period, Energy Commission staff determined that changes to the Express Terms were necessary. On June 4, 2018, the Energy Commission published a notice postponing the public hearing that was initially scheduled on June 13, 2018.

On June 25, 2018, the Energy Commission published a Notice of Hearing that designated July 11, 2018, as the date for the public hearing to consider adoption of the proposed regulations and a Notice of Availability of 15-Day Language that made changes to Express Terms and specified that the comment period ended on July 10, 2018.

On July 11, 2018, after the end of staff testimony and opportunity for public comments, the Energy Commission considered approval of a resolution adopting the Express Terms as published on June 25, 2018. After considering the entire record, including the statement of exemption from the California Environmental Quality Act, the Energy Commission unanimously approved the resolution adopting the amendments to the Appliance Efficiency Regulations, as set forth in the Express Terms published on June 25, 2018.

III. Updated Informative Digest (Gov. Code § 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 regulations or to the effect of the amendments to the Appliance Efficiency Regulations.

IV. Update to the Initial Statement of Reasons (Gov. Code § 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. Pursuant to Government Code section 11346.9(d), the ISOR is incorporated by reference. After the publication of the Express Terms on March 30, 2018 (45-day language), the Energy Commission proposed changes to the Express Terms (15-day language). The changes identified in the 15-day language as well as a statement of the specific purpose and necessity of each change are described below.

Purpose #1: Clarify definitions and/or align definitions with federal regulations.

- Section 1602(f): in the definition of “Residential-duty water heater” added the word “commercial.” This change is necessary to match the current language in the federal definition found in 10 C.F.R. section 431.102.
- Section 1602(u): in the definition of “State-regulated external power supply,” added language to exclude certain types of devices, including light-emitting diodes, organic light-emitting diodes, and direct current motor ceiling fans, from the definition. This change is necessary to align with similar clarifying amendments to 42 U.S.C. section 6291(36)(A)(ii), which excludes products that were not intended to be covered as external power supplies (See Pub.L. No. 115-155 (Jan. 12, 2018) 131 Stat. 2280).
- Section 1602(w): deleted the definition of “Battery charger system (BCS)” to rename this definition as “State-regulated battery charger system (BCS)” and relocated the definition to appear in alphabetical order. Additionally, in the definition of “State-regulated battery charger system (BCS)” added “State-regulated battery charger systems do not include federally regulated battery chargers that are covered under standards in 10 C.F.R. section 430.32(z).” These changes are necessary to more clearly differentiate federally regulated battery chargers from battery charger systems that are state-regulated products, as well as to clarify that there is no intention to cover federally regulated battery chargers within the battery charger systems that are state-regulated products.

- Section 1602(w): in the definition of “Federally regulated battery charger” added “Federally regulated battery charger includes products regulated under 10 C.F.R. section 430.32(z).” A stakeholder commented that the definition for federally regulated battery chargers needed to clarify that dry inductive chargers are not included in the scope of the regulations. This change is necessary to clarify that the definition for federally regulated battery chargers covers battery chargers that are subject to the standards in 10 C.F.R. section 430.32(z).
- Section 1602(w): in the definition of “Federally regulated uninterruptible power supply (UPS)” deleted the phrase “and that utilize the standardized National Electrical Manufacturer Association (NEMA) plug, 1-15P or 5-15P and have an AC output.” This change is necessary to match the current federal definition for uninterruptible power supply (UPS) located in Appendix Y to subpart B of part 430.

Purpose #2: Addition of definitions to align with federal regulations.

- Section 1602(b): added definitions for “Separate auxiliary compartment of a federally regulated consumer product freezer” and “Separate auxiliary compartment of a federally regulated consumer product refrigerator.” These changes are necessary because these federal definitions were missing from the regulations and their inclusion clarifies the scope and requirements of the federal regulations, 10 C.F.R. part 430, for refrigerators and freezers.
- Section 1602(c): added definition for “‘Basic model’ of a federally regulated central air conditioner or central air conditioning heat pump.” This change is necessary to include a federal definition that was inadvertently omitted.
- Section 1602(f): added definition for “Storage-type instantaneous water heater.” This change is necessary to include a federal definition that was inadvertently omitted.

Purpose #3: Change state efficiency standard to align with federal regulations.

- Section 1605.3(h)(4)(A): modified the state efficiency standards for “Commercial pre-rinse spray valves.” This change is necessary because the state “cleanability” requirement is not a parameter in the current federal test procedure (10 C.F.R. section 431.264) for commercial pre-rinse spray valves. Instead, the federal test procedure calculates a spray force value, which is now reflected in the proposed changes to section 1605.3(h)(4)(A).

Purpose #4: Updates to data reporting requirements in Table X.

- Section 1606(a), Table X, D: for “Ceiling Fan Light Kits,” added new fields and split this appliance type into products manufactured “before January 21, 2020” and “on or after January 21, 2020.” This change is necessary to clarify that different data is required depending on manufacturing date. The additional fields are necessary to validate that ceiling fan light kits meet the updated federal standards that take effect on January 21, 2020. Because ceiling fan light kit manufacturers are already required to test ceiling fan light kits and report data to the Energy Commission, these new fields are not expected to change manufacturers’ costs.
- Section 1606(a), Table X, H: for “Commercial Pre-rinse Spray Valves” removed the field “Cleaning ability test.” This change is necessary because the Energy Commission is proposing to use a minimum spray force requirement that uses the federal test procedure at 10 C.F.R. section 431.264. Also, removed the note for the field “Spray force” which states that it is only required for models manufactured on or after January 28, 2019. This change is necessary since this field is required to determine compliance with the current standards.
- Section 1606(a), Table X, R: for “Consumer Product Cooking Products” deleted the fields that require an input for the following two parameters: “Annual Self-cleaning consumption (for conventional ovens)” and “Total Annual Energy Consumption (for conventional ovens).” These changes are necessary because the current federal test procedure (Appendix I to subpart B of part 430) for cooking products no longer tests for these two parameters.
- Section 1606(a), Table X, S: for “Electric Motors” amended the permissible answers and notes to align with current federal standards, and moved the required units for the numerical values to the “required information” column instead of the “permissible answers” column to use a consistent format. These changes are necessary to determine compliance with the federal standards.

Purpose #5: Change compliance date of federal efficiency standards to follow current federal regulations.

- Section 1605.1(a)(5)(F): changed the effective date to reflect that the standards for “walk-in cooler and freezer refrigeration systems” apply to products manufactured on or after January 1, 2020, instead of June 5, 2017. This change

is necessary because the Department of Energy (DOE) published a notice that states that DOE will not enforce these standards until January 1, 2020. (See <https://www.energy.gov/sites/prod/files/2016/02/f29/Enforcement%20Policy%20Statement%20-%20WICF%2002-01-16.pdf>.)

- Section 1605.1(d)(2): changed the effective date to reflect that the standards for “ceiling fan light kits” apply to products manufactured on or after January 21, 2020, instead of January 7, 2019. This change is necessary because DOE published a notice that states that DOE will not enforce these standards until January 21, 2020. (See https://www.energy.gov/sites/prod/files/2018/05/f51/Enforcement%20Policy%20-%202018%20CFLK_0.pdf.)

Purpose #6: Update federal test procedure requirements to follow current federal regulations.

- Section 1604(c)(2): amended the language to state that “For each basic model of central air conditioner and heat pump, test the individual model and combination as required in 10 C.F.R. section 429.16(b)(2).” This change is necessary to reflect the current federal requirements for testing central air conditioners and heat pumps.
- Section 1604(c)(3): removed this subsection “(3)” regarding testing split system air conditioners with the non-compressor-containing unit most likely to represent the highest national sales volume for the combined equipment. Also, renumbering the remaining subsection as a result of removing this subsection “(3)”. These changes are necessary to reflect the current federal testing requirements for testing central air conditioners and heat pumps.

Purpose #7: Change data reporting requirements to be consistent with current federal testing requirements.

- Section 1606(a)(1)(F): amended the language to specify that the data submitted for split-system air conditioners shall be for units tested in accordance with section 1604(c), instead of the highest national sales volume for the combined equipment. This change is necessary to reflect that the current federal testing requirements no longer require testing the combined equipment with the highest national sales volume and that the data must be submitted in accordance with the federal requirements which are specified in section 1604(c).

- Section 1606(a)(4)(A)4.c: amended language in the declaration to state that when submitting data for split-system air conditioners, the units were tested in accordance with 10 C.F.R. section 429.16(b)(2), instead of the highest national sales volume for the combined equipment. This change is necessary to reflect that the current federal testing requirements no longer require testing just the combined equipment with the highest national sales volume.

Purpose #8: Changes to clarify the language of the proposed regulations.

- Section 1605.1(a): in Table A-3, “Standards for Miscellaneous Refrigeration Products,” merged the rows under “coolers”. This change is necessary to accurately reflect that the same standard applies to all four types of coolers, not just the first type.
- Section 1605.1(f)(2): in Table F-3, added text in the footnote “If the Secretary adopts federal efficiency standards for water heaters regulated under 42 U.S.C. section 6295(e)(1), these standards shall not apply.” This change is necessary to clarify that the standards for water heaters regulated under 42 U.S.C. section 6295(e)(1) are only effective until new federal standards are adopted for these products. (Note: The proposed regulations already clarify that these standards will take effect on the effective date of a federal test procedure that converts Uniform Energy Factor (UEF) to Energy Factor for these products). Additionally, added the word “section” before 6295(e) and “(1)” after 6295(e) to clarify and specify the exact subsection where these standards are located in the statute.
- Sections 1606(a) and 1608(a): added “Portable air conditioners (except for spot air conditioners)” to the list of appliances exempt from certification to MAEDbS. Portable air conditioners, except for spot air conditioners, have federal definitions and test procedures, but no federal standards. As a result, there are no DOE reporting requirements for these products. Consequently, this change is necessary because certification of portable air conditioners, other than spot air conditioners, is not required.

Purpose #9: Changes to correct typographical errors.

- Section 1602(f): in the definition of “Storage water heater,” changed the word “section” to “part.” This change is necessary to use a consistent terms throughout the regulations.

- Section 1605.1(a)(2)(A): in Table A-4, swapped the terms “HCT” and “VCS” under the “Equipment Class Designation.” This change is necessary to accurately reflect the current federal standards for refrigerators and freezers.
- Section 1605.1(f)(2): corrected a numerical value shown in Table F-3. This change is necessary to be consistent with the standards for electric water heaters shown in 42 U.S.C. section 6295(e)(1).
- Section 1605.3(h)(5): in the footnote for Table H-5, changed the reference from Table H-4 to Table H-5. This change is necessary to accurately reference the standards for showerheads.

Purpose #10: Correct non-substantive errors in the 15-day language.

In section 1602(w), the 15-day language renamed and relocated the definition for the term “Battery charger system (BCS)” to “State-regulated battery charger system (BCS).” In the original definition for the term “Battery charger system (BCS)”, the four sub-provisions were listed as (1), (2), (3), and (4), respectively. When the definition was renamed “State-regulated battery charger system (BCS)” and relocated to be in correct alphabetical order, the numbering of the four sub-provisions inadvertently changed to (5), (6), (7), and (8), respectively. This change is necessary to correct the sub-provisions back to (1), (2), (3), and (4), respectively. Because this change is non-substantial and solely grammatical in nature, the Energy Commission has corrected this error in the final Express Terms.

Additionally, in section 1602(g), the 15-day language made non-substantive edits to the definition of “spa volume.” In Docket #18-AAER-02, which is the appliance efficiency rulemaking for portable electric spas and battery chargers, the Energy Commission deleted the definition of “spa volume”. Because the Energy Commission deleted the definition and adopted the changes proposed in Docket # 18-AAER-02, it was an error to make edits to the definition of “spa volume” in this rulemaking. (See Docket #18-AAER-0202 at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?doctetnumber=18-AAER-02>.) The Energy Commission has deleted the non-substantive edits to the definition of “spa volume” in the final Express Terms for this rulemaking. This change is non-substantial, but necessary to avoid conflicting proposed changes to the definition of “spa volume.” The Energy Commission’s intent is to delete the term “spa volume” as reflected in Docket # 18-AAER-02.

No other changes or updates to the ISOR are necessary.

V. Studies, Reports, and Documents Relied Upon (Gov. Code §§ 11346.9(a)(1) and 11347.1)

No new technical, theoretical, or imperial study, report, or similar document was relied upon that was not already identified in the ISOR.

VI. Incorporation by Reference (Cal. Code of Regs., title 1, § CCR 20(c)(1) and (c)(2))

The amendments to the Appliance Efficiency Regulations incorporate by reference the documents identified as “Documents Incorporated by Reference” in the NOPA. The documents incorporated by reference include voluminous technical documents published by industry entities that describe standards or test procedures for certain appliances and commercial and industrial equipment. The documents incorporated by reference also include hundreds of federal regulations outlining federal test procedures. Identifying these types of documents as documents incorporated by reference is consistent with the type of information currently incorporated by reference in the Appliance Efficiency Regulations. Attempting to include industry technical documents and federal test procedures verbatim into the Energy Commission’s regulations would congest the already extensive Appliance Efficiency Regulations and make it more difficult to navigate the Energy Commission’s requirements. Therefore, it would be cumbersome, unduly expensive, or otherwise impractical to publish these documents in the California Code of Regulations.

Pursuant to California Code of Regulations, title 1, section 20(c)(2), all of the documents incorporated by reference were made available upon request at the California Energy Commission at 1516 9th Street, Sacramento, California, 95814 during the rulemaking proceeding from 9:00 AM to 5:00 PM, Monday through Friday. The documents are additionally available directly from the publishing entities. The NOPA contains all available contact information, including internet addresses, physical addresses, and the phone numbers for these entities.

The Code of Federal Regulations and the ENERGY STAR documents are available for free online. Some of the technical documents published by industry are available at no cost online from the sources provided. The remainder of the technical documents are available to the affected public from the sources provided at a nominal, one-time fee ranging from \$57 to \$551. In this rulemaking, the affected public consists of manufacturers of regulated products and test laboratories that are hired by these entities to conduct the required testing. Both manufacturers and test laboratories need to purchase only those documents that apply to their appliances. Additionally, many of these companies likely have the required documents, and, if not, these documents only

need to be purchased once no matter how many models the manufacturers would be testing and certifying to the Energy Commission's database.

The Energy Commission has determined that these documents were reasonably available to the affected public in conformance with California Code of Regulations, title 1, section 20(c) because all of the documents were made available for viewing at the Energy Commission, copies of the Code of Federal Regulations, ENERGY STAR, and some industry documents may be obtained for free, and the fee for obtaining copies of the remaining industry documents is a nominal one-time expense that can be easily absorbed by the entities being regulated.

VII. Local Mandate Determination (Gov. Code § 11346.9(a)(2))

The Energy Commission has determined that the proposed regulations will not impose a mandate on local agencies or school districts.

VIII. Mandated by Federal Law or Regulations (Gov. Code § 11346.9(c))

The proposed changes to the federal requirements in the Appliance Efficiency Regulations reflect current federal law. None of the proposed changes to the state-specific requirements conflict with federal law; rather changes are proposed, such as deleting state test procedures and state efficiency standards that are preempted by federal law, to ensure consistency with federal regulations and statutes. The remaining changes are merely changes to clarify ambiguous language, correct typographical errors, and maintain use of consistent terms and format throughout the regulations.

IX. Consideration of Alternative Proposals (Gov. Code § 11346.9(a)(4))

The purpose of the proposed changes to the federal requirements in the Appliance Efficiency Regulations is to reflect the most current federal efficiency regulations. Because the proposed changes are mandated federal regulations, there is no discretion to consider alternatives to the federal regulations. One stakeholder suggested that the Energy Commission not include federal regulations in the Appliances Efficiency Regulations so that the Appliance Efficiency Regulations would not be out of date when federal regulations are updated. However, this would not be more effective, as effective and less burdensome, or more cost-effective and equally effective at carrying out the purpose of the proposed regulations because this would not allow for a "one-stop shop" of all appliance efficiency regulations, state and federal, and it would not allow for federal standards to take effect as state law in the event of federal repeal under section 1605(a). Therefore, the Energy Commission rejected this proposed alternative.

For the proposed changes to the state-specific requirements in the Appliance Efficiency Regulations, the Energy Commission considered a “no change” alternative. Under this alternative, the Energy Commission would not make any updates to the state test procedures, state efficiency standards, state labeling requirements, or the appliance certification procedures and data submittal requirements through MAEDbS. This would have the overall effect of increasing testing burden, maintaining certain unnecessary reporting requirements, preventing the Energy Commission from being able to monitor compliance through reporting to the MAEDbS, increasing the Energy Commission’s costs to notify manufacturers of changes in the MAEDbS, and preventing timely communication of changes in MAEDbS to manufacturers.

The proposed nonsubstantive changes to the Appliance Efficiency Regulations include changes to correct typographical errors, clarify ambiguous language, and use consistent terms and format. The Energy Commission is unaware of any reasonable alternative beyond the proposed nonsubstantive changes. Not making these nonsubstantive changes will result in continued ambiguity and more burdensome compliance with the Appliance Efficiency Regulations.

Therefore, the Energy Commission has not identified, and no person has identified, any alternative that would be more effective in carrying out the purpose for which the regulations are proposed, would be as effective and less burdensome to affected private persons than the adopted regulations, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

X. Proposed Alternatives that would Lessen the Adverse Economic Impact on Small Businesses (Gov. Code § 11346.9(a)(5))

The proposed regulations will not have a significant adverse economic impact on small businesses and no alternatives were proposed that would lessen any adverse economic impact on small businesses.

The proposed changes to the federal requirements in the Appliance Efficiency Regulations will not have an adverse economic impact on small businesses because these changes reflect the current federal regulations. Since these federal regulations are already effective nationwide, and in California by preemption, and because regulated parties must comply with them regardless of California’s regulations, the adoption of these proposed changes does not affect small business.

The proposed changes to the state-specific requirements will not have a significant adverse economic impact on small businesses. The Energy Commission estimates that 771 small businesses will be affected by the proposed changes to the state-specific requirements, including 500 battery charger manufacturers, 148 portable luminaire manufacturers, 41 distribution transformer manufacturers, 41 ceiling fan manufacturers, 38 pump manufacturers, and 10 walk-in cooler and walk-in freezer manufacturers. These businesses are located out-of-state or, in most cases, out-of-country.

Battery charger and portable luminaire manufacturers that are small businesses will receive a small economic benefit from the proposed regulations. The changes in the test procedures for battery chargers, which align the state test procedures with federal test procedures for those products, will provide a modest, one-time benefit of \$300 per manufacturer. The change to remove the sales data reporting requirement for portable luminaires will result in a modest, one-time benefit of \$500 per manufacturer.

Distribution transformer manufacturers that are small businesses will incur a cost associated with the label for its products, about \$350 for the initial retooling or reprogramming to change the mark from the NEMA standard to “DOE compliant,” and \$0 in ongoing costs as marking is already required under the existing regulations. Ceiling fan, walk-in cooler and freezer, and pump manufacturers that are small businesses will incur a \$500 cost per manufacturer to comply with the new reporting requirements, and a \$100 annual cost to submit reports for new models. These costs are not significant and no alternatives were proposed that would lessen the adverse economic impact on small businesses.

XI. Comments Received (Gov. Code § 11346.9(a)(3))

The Energy Commission received written comments during the 45-day comment period and oral comments at the Lead Commissioner public meeting. In response to the comments received, the Energy Commission published changes to the Express Terms (15-day language) on June 25, 2018.

The Energy Commission received written comments during the 15-day comment period and oral comments during the public hearing on July 11, 2018. The Energy Commission has not made any substantive changes to the Express Terms made available to the public on June 25, 2018.

Appendix A provides a summary of each objection and recommendation made regarding the proposed amendments to the Appliance Efficiency Regulations together with an explanation of how the proposed regulation was changed or the reasons for making no change.

ATTACHMENT A
Response to Comments

Amendments to Title 20 Appliance Efficiency Regulations Rulemaking
Docket #2018-AAER-10

Written Comments Received During the 45-Day Comment Period

William Zhu
Public
4/11/2018
TN #223176

Comment 1

Definition of state regulated BCS

I would suggest to add some description in BCS definition part of CEC Title 20, just like the definition of "state regulated EPS". The term "state-regulated external power supply" does not include a device that is a "Class A external power supply" that is federally regulated.

Energy Commission Response:

The recommended change was made. In section 1602(w), the Energy Commission deleted the definition of "Battery charger system (BCS)" to rename this definition as "State-regulated battery charger system (BCS)" and moved the definition to appear in alphabetical order. Also, in the definition of "State-regulated battery charger system (BCS)," the Energy Commission added language that states "State-regulated battery charger systems do not include federally regulated battery chargers that are covered under standards in 10 C.F.R. section 430.32(z)."

Karin Athanas
American Association for Laboratory Accreditation (A2LA)
4/30/2018
TN #223288

Comment 2a

Comment:

Clause 1602(s): Definition of accreditation should follow ISO.

Possible Solution:

Change to: Third party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

Energy Commission Response:

No change is necessary. The Energy Commission is not proposing any changes to the accreditation of test laboratories as part of this rulemaking. The Energy Commission is currently conducting audits of test laboratories to gain more knowledge about how test

laboratories are applying appliance testing. Information obtained from these audits may be used in subsequent rulemakings to inform the process for the accreditation of test laboratories.

Comment 2b

Comment:

Clause 1602(s): Definition of accreditation body should follow ISO.

Possible Solution:

Authoritative body that performs accreditation.

Energy Commission Response:

No change is necessary. Please see response to Comment 2a.

Comment 2c

Comment:

Clause 1602(s): Add a definition for conformity assessment body.

Possible Solution:

Body that performs conformity assessment activities and that can be the object of accreditation.

Energy Commission Response:

No change is necessary. Please see response to Comment 2a.

Comment 2d

Comment:

Clause 1603(b)(1): Who would be considered an approved industry certification program provider? Are we talking about a certification body or a testing laboratory? A testing laboratory's role typically only includes the testing activities and reporting of data. It is normally the product certification body who uses an evaluation (i.e. testing) to determine if a product meets given specifications. Alternatively the manufacturer can self-declare based on the results of testing, but labs do not certify products!

Possible Solution:

Clarify the provider of services for the certification program. Consider restructuring.

Energy Commission Response:

No change is necessary. Any entity who applies and meets the requirements listed in proposed section 1603(b) can be an approved industry certification program, and can include a certification body or a test laboratory. Note that section 1603(b) is merely relocated text from section 1602's definitions, with no substantive changes proposed. In addition, please see response to Comment 2a.

Comment 2e

Comment:

Clause 1603(b)(1): It appears that the functions of a scheme owner are being mixed with that of the certification body, which must be accredited to something. While it is permissible for the certification body to be a scheme owner, the duties are unique and

should be separated. Further there are requirements within ISO/IEC 17065 (4.2.6) that would need to be addressed.

Possible Solution:

Delineate the functions of the scheme owner from those of the certification body, taking into account the requirement of ISO/IEC 17065 for the Certification Body.

Energy Commission Response:

No change is necessary. Please see response to Comment 2a.

Comment 2f

Comment:

Clause 1603(b)(1)(B): This clause makes reference to accreditation of the CB by ANSI and ISO. ISO in full and the ANSI (SDO) do not accredit. As written this would not meet the intent of providing the level of quality the industry program is seeking. It also does not detail the standard to be accredited for.

Possible Solution:

Revise clause to state, "is accredited to ISO/IEC 17065:2012 by an Accreditation Body who is a full member signatory to the International Accreditation Forum (IAF) for the relevant Scope of work; and..." This would include the accreditation division of ANSI and ensure that these accreditation bodies have deemed compliant to ISO/IEC 17011:2017.

Energy Commission Response:

No change is necessary. Please see response to Comment 2a.

Comment 2g

Comment:

Clause 1603(b)(1)(C)(2): Is the section implying that the CB must perform the testing, or would be allowable for the CB to outsource the testing? Further how is the competence of the testing lab determined?

Possible Solution:

Revise the section to states, "testing of appliances according to applicable test methods and accurate reporting of test results shall be performed by a testing laboratory that has been accredited to ISO/IEC 17025:2017 by an accreditation body that is a full member signatory to the International Laboratory Accreditation Cooperation (ILAC) for the relevant Scope of work;..."

Energy Commission Response:

No change is necessary. The requirement clearly specifies that the program must provide for testing per section 1603(b)(1)(c)2.. That testing may be performed by the certification body itself, a test lab under contract to the certification body, or other arrangement provided that it meets those requirements. Test laboratory requirements are described in section 1603(a). In addition, please see response to Comment 2a.

Comment 2h

Comment:

Clause 1603(b)(1)(E): The challenge procedure should be detailed so that all certification schemes are written in a manner that will yield the intended result.

Possible Solution:

Add detail as to what the procedure must include. A good reference may be the EPA's conditions and criteria for accreditation of CB's. Refer to page 4 (section 3C).

www.energystar.gov/index.cfm?c=third_party_certification.tpc_cert_bodies

Energy Commission Response:

No change is necessary. Please see response to Comment 2a.

*Matt Sigler
Plumbing Manufacturers International (PMI)
5/9/2018
TN #223410*

Comment 3a

PMI supports the CEC in their objectives of updating Title 20, and would like to offer the following comments for consideration regarding the proposed regulatory language:

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 3b

On page 217, Section 1605.3(h)(4)(A), the cleanability requirement that is referenced in this section is not referenced in ASTM F2324-13. Additionally, the methods referenced in C.F.R. section 431.264 (that is referenced in Section 1604(h)(1) of Title 20) pertain to measuring flow rate and spray force, and not cleanability. Finally, both the U.S. Department of Energy and EPA WaterSense utilize a spray force test in place of a cleanability test. PMI proposes the following revision:

(4) Commercial Pre-rinse Spray Valves. (A) Commercial pre-rinse spray valves manufactured on or after January 1, 2006, shall ~~be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate~~ have a minimum spray force of not less than 4.0 ounces-force (ozf) [113 grams-force (gramf)].

Energy Commission Response:

The recommended changes were made. In section 1605.3(h)(4), the Energy Commission modified the state efficiency standards for "Commercial pre-rinse spray valves" to be a "spray force" value instead of a "cleanability" requirement, in accordance with the required federal test method for this appliance type.

Comment 3c

On page 218, Section 1605.3(i)(2), the industry standard for ceramic plumbing fixtures has been harmonized with Canada. PMI proposes the following revision that will correlate with the CEC proposed change on page 239:

2) Water closets sold or offered for sale on or after January 1, 2016, shall pass the Waste Extraction Test (Section 7.10) of ASME A112.19.2/CSA B45.1.

Energy Commission Response:

The recommended change was made. The Energy Commission added “CSA B45.1” to the referenced test method to accurately reflect the name of the test method.

*Mike Moore, P.E.
Newport Ventures
5/14/2018
TN #223434*

Comment 4

Dear CEC Staff:

This comment recommends coordination of Title 20 and Title 24 to ensure that Title 20 also provides an exception for lamp performance requirements for range hoods based on unavailability of high-performance lamps that are rated for use in the domestic cooking environment.

Domestic range hoods serve a critical function of protecting California residents from exposure to some of the highest pollutant concentrations in the residential indoor environment. Most range hoods are equipped with task lighting that uses state-regulated light emitting diode lamps (SLEDs) or state-regulated small diameter directional lamps (SDDLs) to improve cooking safety and appliance utility. Unfortunately, the SLED and SDDL lamp performance requirements of Title 20 were developed without consideration for the special application of the domestic cooking environment. Consequently, there are no domestic range hoods that comply with the lamp performance requirements of Title 20. To ensure that domestic range hoods with task lighting can continue to be installed in California, we respectfully request that CEC modify Title 20 to align with the Title 24 exception for range hood lamp performance.

Domestic range hoods typically use state-regulated small diameter directional lamps (SDDLs) or state-regulated light emitting diode lamps (SLEDs) to provide task lighting for cooking. Unlike other SDDLs in residential spaces, these lamps must perform in a harsh environment characterized by air temperature that can exceed 100 degrees Celsius. In speaking with the Home Ventilating Institute’s range hood manufacturers, we were not able to find one manufacturer that has been able to source either SDDLs or SLEDs that are compliant with Title 20 requirements for rated life and luminous efficacy or the combined luminous efficacy/CRI compliance score. Further, none of the lamps listed in the MAEDBS are known to be tested or approved for use in range hoods that can be exposed to air temperature meeting or exceeding 100 degrees Celsius. According to range hood manufacturers, their conversations with lamp manufacturers have produced the same outcome – zero SDDLs or SLEDs are available that comply with Title 20’s performance requirements and also withstand temperatures meeting or exceeding 100 degrees Celsius. In performing this outreach, we learned that one lamp supplier tested a SLED with a GU-10 base in air temperatures as high as 75 degrees Celsius and found that the expected life ranged from 4,000 – 5,000 hours, which is far short of the 25,000 hours required by Title 20. Higher temperatures are expected to result in further

reductions in useful life. A list of temperatures reached under various cooking scenarios is provided in Table 1.

	Blower Inlet Temperature (°C)
Gas range at 60k BTUs low speed 18 in. Recirculation :	140
Gas range at 60k BTUs low speed 18 in. Ducted :	130
Gas range at 60k BTUs low speed 24 in. Ducted:	130
Gas range at 50k BTUs low speed 24 in. Ducted:	110
Gas range at 40k BTUs low speed 24 in. Ducted:	100

Table 1. Air temperatures experienced at the blower inlet of a domestic range hood under different testing conditions. Data provided by Venmar Ventilation.

The most obvious potential consequence of specifying lamps for range hoods that are not designed for high temperatures is a severe limitation to lamp life, resulting in large costs for consumers who will need to replace lamps at shorter intervals. Even more importantly, there could be safety concerns with lamp failure in high temperature environments. Other challenges with respect to using MAEDBS listed SDDLs and SLEDs that are not rated for use in range hoods are the compatibility of the lamps with multi-level lighting controls and the potential lack of labels on lamps to assist with enforcement (e.g., if lamps are shipped from the lamp manufacturer with compliance info on the packaging, is labeling of the lamp itself still required, and if not, how can this provision be enforced in the field?). Finally, unlike SDDLs and SLEDs used for general service lighting applications, lamps in range hoods are meant for task lighting only and so are not likely to be used as long or to consume as much energy as general service lamps; hence, the benefit of requiring higher performance lamps is diminished for the application of range hoods. There is currently a disconnect between the Title 24-2019 and Title 20 requirements for range hood lamp performance. Recognizing the current limitations to the availability of high performance lamps for range hoods, both the 2016 and 2019 versions of Title 24 provide an exception to lamp performance requirements for range hoods (see Title 24-2019 Section 150.0(k)1F). However, Title 20 provides no such exception. For the reasons outlined in this letter, and to align California’s requirements for domestic range hood lamps across new and existing buildings, the CEC should update Title 20 range hood SDDL and SLED lamp efficacy requirements to echo the exception in Title 24.

Energy Commission Response:

No change is required. Making the recommended modifications would change the underlying efficiency standards in the regulations, which is outside the scope of this rulemaking. The Order Instituting Rulemaking (Docket # 16-AAER-01) set forth that this rulemaking shall not make changes to the underlying energy and water efficiency standards or result in any changes in the estimated energy and water savings from those standards.

Alexandria McBride
Information Technology Industry Council (ITI)
5/14/2018
TN #223436

Comment 5a

As we stated in recent testimony, harmonized standards are the most productive approach in reaching goals to reduce carbon emissions, and we strongly support the CEC's effort to align California's battery charger requirements with the U.S. Department of Energy (DOE) Battery Chargers Energy Conservation Standard Final Rule. While many of the CEC's proposed amendments align standards with the DOE's final rule, we also identified a few areas of improvement to ensure CEC requirements clearly correspond with the DOE's standard. We appreciate your review of the comments below.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 5b

'BC' Mark

We want to ensure that the Express Terms (15-day language) for the portable electric spas and battery charger systems appliance efficiency rulemaking, adopted on April 11, 2018, are included in the final Title 20 Appliance Efficiency Regulations.

From Express Terms:

§ 1607. Marking of Appliances

(d) Energy Performance Information

(10) Battery Charger Systems. Each **state-regulated** battery charger system shall be marked with a "BC" inside a circle. The marking shall be legible and permanently affixed to:

(A) the product nameplate that houses the battery charging terminal or;

(B) the retail packaging and, if included, the cover page of the instructions.

Energy Commission Response:

No change is necessary. The Energy Commission is not including any of the battery charger system marking requirement changes in this "Amendments to Title 20" rulemaking (Docket #18-AAER-10). The battery charger system marking requirement modifications have been adopted and approved by the Office of Administrative Law (OAL) in another rulemaking (Docket #18-AAER-02). Once the rulemaking 18-AAER-02 becomes effective (on October 1, 2018), then the battery charger system marking modifications will be shown in the Appliance Efficiency Regulations.

Comment 5c

Inductive Charger Systems in Wet Condition

Per the DOE, only inductive chargers with rated battery capacity $\leq 5\text{Wh}$ that are designed for use in a wet environment (e.g. electric toothbrushes, waterpiks) are subject to the DOE's energy conservation standards in product class 1. Therefore, all other inductive chargers (that are not categorized in class 1) are not subject to federal regulations.¹

The CEC's proposed definition for "federally regulated battery charger" should clearly exclude inductive chargers that are used in wet condition, per the edits in red below.

"Federally regulated battery charger" means a device that charges batteries for consumer products, including battery chargers embedded in other consumer products. Backup battery chargers are not included as federally regulated battery chargers. Inductive charger systems that are not designed for use in wet environments are not included as federally regulated battery chargers.

¹ https://www.ecfr.gov/cgi-bin/text-idx?SID=c9dbafe3c54ecf1ee3bbb502608fca50&mc=true&node=se10.3.430_132&rgn=div8

Energy Commission Response:

The recommendation to clarify the definition for federally regulated battery charges was implemented. In section 1602(w), the Energy Commission added language in the definition for "federally regulated battery charger" that states: "Federally regulated battery charger includes products regulated under 10 C.F.R. section 430.32(z)." Inductive charger systems are not covered in 10 C.F.R. section 430.32(z); therefore, citing this reference excludes inductive chargers and any other products not covered in the scope of the federal regulations.

Comment 5d

Standards for Federally Regulated Battery Chargers

ITI strongly recommends the following edits to the proposed language in Section 1605.1 (w) to provide clarity.

(w) **Battery Chargers** and Battery Charger Systems.

(1) **Federally Regulated Battery Chargers Manufactured on or after June 13, 2018.** Federally regulated battery chargers manufactured on or after June 13, 2018 must have a unit energy consumption (UEC) less than or equal to the prescribed "Maximum UEC" standard when using the equations for the appropriate product class and corresponding rated battery energy as shown in Table W-1: referenced in 10 CFR 430.2

[Strike Table W-1]

Energy Commission Response:

No change is required. The standards shown in Table W-1 are taken directly from federal law, and the standards for all other federally regulated products are shown throughout section 1605.1 in Title 20. To provide manufacturers, retailers, and consumers of appliances with a clear and comprehensive set of requirements, in a single location, pertaining to regulated appliances, the Appliance Efficiency Regulations contain the definitions, efficiency standards, and test procedures for both federally regulated and state-regulated appliances. Removing federal standards would not allow for a “one-stop shop” of all state and federal appliance efficiency regulations applicable to such products sold or offered for sale in California.

Comment 5e

Filing by Manufacturers in the Modernized Appliance Efficiency Database System (MAEDbS)

As mentioned in earlier testimony, we urge the CEC to exempt federally regulated battery chargers from the MAEDbS certification requirement. Starting June 13, 2018, all federally regulated battery chargers must be certified into DOE’s Compliance Certification Management System (CCMS) database in order to sell products in the US. CEC’s additional MAEDBS reporting requirement would be duplicative and a significant burden to the industry. Since the DOE expressed interest in working with the CEC to reduce duplicative reporting,² we strongly support collaboration between the two agencies on this issue.

Therefore, ITI recommends the following edits to Section 1606 (a).

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

1. external power supplies,
2. compressors,
3. small electric motors, or
4. federally regulated battery chargers, or
5. à la carte chargers meeting the EXCEPTION noted in section 1605.3(w)(2) of this Article

Furthermore, according to the CEC’s General Instructions for Submitting Appliance Data for Small Battery Chargers³, the CEC requires a test laboratory application to register small battery chargers in the MAEDbS, as well as requiring lab reauthorization, which deviates from the DOE’s requirements. This means that completing both databases is not only duplicative but also different enough to be even more burdensome and may increase the opportunity for delayed approval of products in California that industry thinks are already registered. At the very least, alignment of process steps and requirement beyond test data is greatly needed.

² Agency Information Collection Extension, With Changes. December 2017. Available here: <https://www.federalregister.gov/documents/2017/12/04/2017-26056/agency-information-collection-extension-with-changes>

³ General Instructions for Submitting Appliance Data (Last Updated 5/16). Available here: [http://www.energy.ca.gov/appliances/database/forms_instructions_cert/Electronics/Small%20Battery%20Chargers%20\(SBCS\).zip](http://www.energy.ca.gov/appliances/database/forms_instructions_cert/Electronics/Small%20Battery%20Chargers%20(SBCS).zip)

Energy Commission Response:

No change is required. The Title 20 Appliance Efficiency Regulations have long required that all federally regulated products be certified to MAEDbS in order to be sold or offered for sale in California and industry has consistently complied with this requirement. The data parameters for federally regulated battery chargers that are required for certification to MAEDbS closely match the parameters in DOE's CCMS database, which reduces the burden of certifying to two databases. CEC is willing to continue discussions with DOE regarding making the MAEDbS and CCMS databases compatible.

Kevin Messner
Association of Home Appliance Manufacturers (AHAM)
5/14/2018
TN #223439

Comment 6a

AHAM commends the CEC for making the effort to harmonize energy efficiency standards with the Department of Energy (DOE) to the greatest extent possible. As an overarching recommendation, AHAM continues to urge the CEC to extend its references of the federal regulations to definitions in Section 1601 to ensure continuity and clarity. AHAM appreciates and agrees with CEC's updated testing methods for home appliances citing federal regulations, i.e., Appendices to 10 C.F.R. subpart B of part 430. Each of these appendices also include definitions applicable to the tested product and are the exact same definitions. Instead of updating definitions one by one under Section 1601, referencing federal regulations would automatically update them when the DOE changes definitions.

Energy Commission Response:

No changes are necessary. To provide manufacturers, retailers, and consumers of appliances with a clear and comprehensive set of requirements, in a single location, pertaining to regulated appliances, the Appliance Efficiency Regulations contain the definitions, efficiency standards, and test procedures for both federally regulated and state-regulated appliances. Removing federal definitions would not allow for a "one-stop shop" of all appliance efficiency regulations, state and federal.

Comment 6b

Section 1602. Definitions; (b) Refrigerators, Refrigerator-Freezers, and Freezers; Definitions of separate auxiliary compartment is missing for both Refrigerators and Freezers

The definition for separate auxiliary compartment is missing in CEC definitions section from both Appendix A and B of the DOE test procedures. AHAM recommends adding these definitions:

For refrigerators: “Separate auxiliary compartment means a separate freezer, fresh food, or cooler compartment that is not the primary freezer, primary fresh food, or primary cooler compartment. Separate auxiliary compartments may also be convertible (e.g., from fresh food to freezer). Separate auxiliary compartments may not be larger than the primary compartment of their type, but such size restrictions do not apply to separate auxiliary convertible compartments.”

For freezers: “Separate auxiliary compartment means a freezer compartment other than the primary freezer compartment of a freezer having more than one compartment. Access to a separate auxiliary compartment is through a separate exterior door or doors rather than through the door or doors of another compartment. Separate auxiliary freezer compartments may not be larger than the primary freezer compartment.”

Energy Commission Response:

The recommended changes were made. In section 1602(b), the Energy Commission added the federal definitions from 10 C.F.R. part 430 for “Separate auxiliary compartment of a federally regulated consumer product freezer” and “Separate auxiliary compartment of a federally regulated consumer product refrigerator.”

Comment 6c

Section 1603. Testing: All Appliances; (b) Approved Industry Certification Programs

AHAM supports the inclusion of Appliance Manufacturer Trade Associations or other entities that meet the criteria (listed in the section) as certified bodies for testing. This provides manufacturers the flexibility to test and certify products on a larger scale instead of specifically for the state of California. This contributes to higher efficiency and lower costs for manufacturers, which can translate to lower costs to consumers.

Energy Commission Response:

Thank you for your comment. No change is requested.

Comment 6d

Section 1604. Test Methods for Specific Appliances; (d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans

AHAM appreciates CEC’s effort to differentiate between Spot Air Conditioners and Portable Air Conditioners (PAC). However, the proposed changes to the title of this section (Section 1604(d)) and the accompanying table (Table d-3) only replace “spot” with “portable” while leaving Spot Air Conditioners in the table with a distinct test procedure. We recommend two changes to this test procedure section. First, “Spot” should remain in the titles of the sections and related table. Second, although we appreciate CEC acknowledging the DOE test procedure for PACs, inclusion of this federal test procedure in the regulations is premature, and only creates confusion for manufacturers and retailers. Currently, there is no compliance date set for the federal PAC energy efficiency standard and there are no reporting requirements to CEC so listing an unnecessary test procedure will cause confusion over whether something is required for this product.

Energy Commission Response:

The recommendation concerning the reporting requirements for portable air conditioners was implemented. In sections 1606(a) and 1608(a), the Energy Commission added “portable air conditioners (not including spot air conditioners)” to the list of product exempt from certification to MAEDbS. Regarding the test method shown in section 1604(d), a change is not necessary. This test method is currently in effect for federally regulated portable air conditioners; therefore, the Energy Commission is including this federal test method in the Appliance Efficiency Regulations. The term “spot” was removed from the table title (Table D-3) since “spot air conditioners” are a subset of “portable air conditioners”.

Comment 6e

Section 1606. Filing by Manufacturers; Listing of Appliances in MAEDbS; R – Consumer Product Cooking Products

There appears to be a discrepancy for consumer product cooking products regarding the test methods and reporting requirements. Under Section 1604 (r), the testing method for cooking products that are consumer products cites the current DOE test procedure, Appendix I. This test procedure does not measure energy consumption for conventional ovens. However, Section 1606 (R) requires manufacturers to report (1) annual self-cleaning consumption (for conventional ovens) and (2) total annual energy consumption (for conventional ovens only). Manufacturers do not test for this variable via Appendix I nor is it readily available. Manufacturers will have to go beyond the scope of requirement to obtain this information.

As such, AHAM requests the removal of requirements of (1) annual self-cleaning consumption (for conventional ovens) and (2) total annual energy consumption (for conventional ovens only) from Section 1606 (R).

Energy Commission Response:

The recommended changes were made. In section 1606(a) Table X(R), the Energy Commission removed the “annual self-cleaning consumption (for conventional ovens)” and “total annual energy consumption (for conventional ovens only)” data parameters because these data parameters are no longer tested in the current federal test procedure for consumer product cooking products.

Comment 6f

Section 1606. Filing by Manufacturers; Listing Appliances in MAEDbS (c) Modernized Appliance Efficiency Database of Appliance Models, (e) Modified and Discontinued Appliances

AHAM acknowledges the CEC’s process for maintaining MAEDbS and product compliance as new efficiency standards transition as per subsection (c)(3)(A). (pg. 289-290). AHAM supports the inclusion of clause (1)(A) under subsection (e) which states “If no data currently certified for a specific appliance has changed, no notification of modification is necessary, nor will it be accepted by MAEDbS.” Reporting the same product model multiple times annually despite absolutely no changes is burdensome and can generate significant costs.

Energy Commission Response:

Thank you for your comment. No change is requested.

Comment 6g

Section 1607. Marking of Appliances (10) Battery Charger Systems (pg. 301)

Federal regulations for battery charger systems come into force on June 13, 2018, which will not require a special certification mark as California state regulations did.

Furthermore, on April 12, 2018 at the monthly business meeting, CEC Commissioners unanimously agreed to remove the requirement in the wake of the federal regulations taking effect. The Commissioners also indicated the change (in regulations) should take effect earlier than the typical one year from adoption. In agreement with CEC Commissioners, AHAM supports the removal of the “BC” mark requirement. As such, AHAM recommends the removal of the language under Section 1607, subsection (10) for battery chargers accordingly, and that the product be listed under Section 1607(d) with the other federally regulated consumer products.

Energy Commission Response:

No change is necessary. Please see response to Comment 5b.

Comment 6h

Section 1605.3 State Standards for Non-Federally-Regulated Appliances

The current standards for lamps need an exclusion for high temperature applications. LEDs are very sensitive to heat and do not function well in temperatures above ambient temperatures. LED operating temperatures are provided by the manufacturers of the lamps. For example, one manufacturer states that each 20°C increase in temperature will typically drop the life span by 10,000 hours. Also, the AC to DC driver for the LED is heat sensitive and each 10°C increase in temperature will typically reduce the lifetime of the driver in half. Regarding products that operate in high temperature environments, like range hoods, the UL 507 standard used to evaluate hoods allows a maximum temperature of 85°C in the lab test, which is well above ambient. Further, LEDs may not function well in vent hoods when the light is adjusted to its lowest setting.

Lamps in some appliances can reach temperatures that make it cost effectively impractical to use typical LED lamps. Even if there are specialty LED lamps that are part of an appliance at time of sale, these would likely not be widely available in retail for customers who need to replace a light bulb. Also, in a range hood the LED may be enclosed retaining heat and further accentuating the problems with heat. A more general exclusion for high temperature application is needed for the General Services Lamps standard, the Small Diameter Directional Lamps standard, and the LED Lamps standard.

Energy Commission Response:

No change is required. Please see response to Comment 4.

Anthony W. Serres
Philips Lighting
5/14/2018
TN #223440

Comment 7a

Philips Lighting appreciates the opportunity afforded by the Energy Commission to submit written comments on the 45 Day language for amendments to the Title 20 Appliance Efficiency Regulations. Our comments are generally listed in the order they appear in the document.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 7b

Section 1604(w)

We are concerned that the CEC is introducing a new class of products, i.e., non-federally regulated UPSs. This term does not appear to be defined. It is concerning as the proposed DOE regulation was to limit the scope to those UPS that have a NEMA 15A cord and plug. Would a non-federally regulated UPS be everything that does not have a NEMA 15A cord and plug? This change needs further discussion and clarification.

Energy Commission Response:

The recommendation to clarify the definition for "Federally regulated uninterruptible power supply (UPS)" was implemented. In section 1602(w), in order to match the federal definition for "Federally regulated uninterruptible power supply (UPS)", the Energy Commission deleted the phrase "and that utilize the standardized National Electrical Manufacturer Association (NEMA) plug, 1-15P or 5-15P and have an AC output."

Comment 7c

Section 1605.1 – Table K-4

The language in this table has been changed to follow what is in the DOE GSL draft rulemaking (81FR14528). We appreciate that the CEC is trying to harmonize with the DOE, however, the GSL rulemaking has not been finalized, and it may have substantive changes, thus it seems premature to change the language in T20 now.

Energy Commission Response:

No change is necessary. This rulemaking adopts the existing federal regulations in 10 C.F.R. section 430.32(u).

Comment 7d

Section 1607(d)(13) - Exception

We strongly support the inclusion of this exemption for incandescent wattage equivalency claims.

Energy Commission Response:

Thank you for your comment. No change is requested.

*Kelly Swaine
IKEA of Sweden, Range & Supply
5/14/2018
TN #223441*

Comment 8a

IKEA of Sweden, Range & Supply ("IKEA Range & Supply") appreciates the opportunity to comment on the California Energy Commission's ("CEC" or the "Commission") proposed amendments to the Appliance Efficiency Regulations, California Code of Regulations, title 20, sections 1601 to 1609.

Energy Commission Response:

Thank you for your comment. No change is requested.

Comment 8b

To further expand access to affordable, low-energy LED lights, IKEA Range & Supply proposes an update to the Title 20 requirements for portable LED luminaires. This update reflects current regulations and changes in the marketplace for energy-efficient lighting. Specifically, Table N-2 in section 1605.3(n), which remains unchanged since it was originally adopted in 2008, contains a requirement that portable luminaires with integrated LEDs have a light output of at least 200 lumens. IKEA proposes that the regulations be updated to remove this requirement, as follows:

Table N-2
Minimum Requires for Portable LED Luminaries, and Portable Luminaries with LED Light Engines
with Integral Heat Sink

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

The light output requirement for portable LED luminaires made sense when it was written into the regulations in 2008, as LED lighting was then a new technology unfamiliar to most consumers. At the time, there were only a few LED lighting products

on the market. LED technology was in its early stages and had a hard time producing significant levels of light. In addition, regulators and the lighting industry had little experience with consumer expectations for LED lighting or feedback from consumers regarding LED lighting products.

In the ten years since the regulation was adopted, however, the LED industry and its underlying technology have undergone major improvements and become more mature. This extends to quality, production, testing and commercial applications. In addition, consumers have become more familiar, comfortable and reliant on LED lighting over the past decade. The 200 lumen requirement is no longer necessary. Further, the requirement prevents California consumers from having access to efficient, low-energy LED lighting options. IKEA Range & Supply offers a series of table and floor luminaires with built-in LED light sources that are highly energy efficient and use very little total energy - approximately 1.65 watts. The luminaires have a flexible neck allowing the user to easily direct light to just where the user wants for studying, reading, or working without illuminating an entire room. A product description for one of these luminaires, the JANSJö LED work lamp, is attached. Our affordable, low-power LED luminaires have received top ratings from customers who have purchased the over 1.5 million work lamps sold globally, outside of California. However, due to its light output rating of approximately 88 lumens, the JANSJö series currently cannot be offered for sale in California because of section 1605.3(n)'s minimum lumen requirement.

This amendment would be consistent with California policy and the Commission's objectives to reduce statewide energy consumption. Removing the requirement would allow low-power LED luminaires, like those in IKEA's JANSJö series, to be sold in California. A search of the Department of Energy's LED Lighting Facts database, available at www.lightingfacts.com, reveals that, even among LED portable luminaires, which are generally one of the most efficient options, the average power consumption is approximately 13 watts. Allowing the sale of low-consuming LED luminaires in California, like the JANSJö series that use only 1.65 watts of power, will necessarily result in lower energy consumption with each luminaire sold. And, removing the 200 lumen minimum requirement, would not entail a change to any underlying appliance energy efficiency standards, which would remain the same under this proposal.

IKEA Range & Supply is excited to collaborate with the California Energy Commission on its valuable work creating standards for energy efficient and sustainable products. Please just let us know if we may provide any additional information or clarification, as we are happy to answer any questions or provide further information.

Energy Commission Response:

No change is required. Please see response to Comment 4.

*Laura Petrillo-Groh, PE
Air-Conditioning, Heating, & Refrigeration Institute (AHRI)
5/14/2018
TN #223465*

Comment 9a

We appreciate CEC's efforts to engage industry early on this rulemaking and for staff's thoroughness in making updates. AHRI has several comments, some of which were communicated during the April 24, 2018, stakeholder meeting. We would welcome any additional conversations on any of our comments.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 9b

Definitions

There are several instances in the definitions section where CEC is proposing multiple meanings for the same words or phrases. For example, "Electric instantaneous water heater" is defined as both a "federally regulated *consumer* product means a water heater that uses electricity as the energy source, has a nameplate input rating of 12 kW or less, and contains no more than one gallon of water per 4,000 Btu per hour of input;" and a "federally regulated *commercial and industrial* equipment means a water heater that uses electricity as the energy source, and has a rated input both greater than 12 kW and not less than 4,000 Btu/h per gallon of stored water." Other than the market distinction, each definition has different requirements. Other examples include "Electric storage water heater," "Gas-fired instantaneous water heater," "Gas-fired storage water heater," "Oil-fired instantaneous water heater," "Oil-fired storage water heater," This situation is confusing for those trying to comply with Title 20.

AHRI recommends that CEC review the definitions section and propose clear definitions for distinct words and phrases. This would be most easily accomplished by adding " , residential" and " , commercial and industrial" to the end of each term to make each unique for the situations described above. For the example, above, "Electric instantaneous water heater, consumer" and "Electric instantaneous water heater, commercial and industrial."

Energy Commission Response:

In section 1602(f), the Energy Commission added the definition for "Storage-type instantaneous water heater." This federal definition was inadvertently left out of the proposed regulations. No other changes are necessary. All of the other relevant water heater definitions are identical to the federal definitions, or we have added clarifying text ("consumer product", "commercial and industrial", etc.) where appropriate, to specify product types. The existing regulations along with the proposed amendments make clear what product classification the definition applies.

Comment 9c

AHRI also recommends maintaining definitions for products in a single location and considering if maintaining references to the CFR is necessary. General definitions of water heaters, such as "Storage water heater," is in fact a fact a sub-category due to the CFR reference, in this case, "10 C.F.R. § 431," which in fact only applies to commercial

or industrial applications. Current federal definitions might change rendering Title 20 unintentionally inaccurate and causing complex regulatory problems in California. Rather than also including “Storage water heater” or “Water heater” or “Instantaneous water heater” as separate definitions, CEC should define terms once, completely, in a single location.

Energy Commission Response:

No changes are necessary. To provide manufacturers, retailers, and consumers of appliances with a clear and comprehensive set of requirements, in a single location, pertaining to regulated appliances, the Appliance Efficiency Regulations contain the definitions, efficiency standards, and test procedures for both federally regulated and state-regulated appliances. Removing federal definitions would not allow for a “one-stop shop” of all appliance efficiency regulations, state and federal.

Comment 9d

AHRI recommends the following change (highlighted yellow) for, “Flow-activated instantaneous water heater” means an instantaneous water heater or hot water supply boiler that activates the burner or heating element only if heated-water is drawn from the unit.” It is incorrect to define these products by heated water at the exit, as at first call, the water at the exit would not be hot since water flow and temperature are coordinated.

Energy Commission Response:

No change is necessary. The adopted definition for “Flow-activated instantaneous water heater” is identical to the federal definition found in 10 C.F.R. section 431.102.

Comment 9e

To accurately reflect the correct term for this federally-defined product type, AHRI the following change (highlighted yellow) for, “Residential-duty commercial water heater” means any gas-fired storage, oil-fired storage, or electric instantaneous commercial water heater that meets the following conditions...”

Energy Commission Response:

The recommended change was made. In section 1602(f), the Energy Commission, added the word “commercial” to the definition of “Residential-duty water heater” to align with the federal definition found in 10 C.F.R. section 431.102.

Comment 9f

Table F-3, Standards for Water Heaters Regulated Under 42 U.S.C. 6295(e)

AHRI is concerned with proposed Table F-3 which, as written, lists an energy conservation standard for, “water heaters not covered under 10 C.F.R. § 430.32, including but not limited to storage water heaters > 1 gal and < 20 gal (mini-tank water heaters) and booster water heaters, that would become effective on the date of a federal test procedure that converts Uniform Energy Factor (UEF) to Energy Factor for these products.” However, if the US Department of Energy was to establish minimum UEF for these products, there would be a federal rulemaking on the topic and the backstop CEC is recommending would not necessarily be the outcome of such a rulemaking. Also, the note references that the standard effective date would be on the date that the federal

test procedure is applicable, but the current federal test procedure covers these products, and yields a UEF, but no conversion to Energy Factor. As the situation currently stands, there are no federal UEF standards for these products, no justification that the minimum Energy Factors listed for these products are appropriate and CEC including state standards for these products violates EPCA's preemptions provisions. 42 U.S.C. 6297(c). AHRI recommends revising Note 1 in proposed Table F-3 as follows:

~~¹ Applies to water heaters not covered under 10 C.F.R. § 430.32, including but not limited to storage water heaters > 1 gal and < 20 gal (mini-tank water heaters) and booster water heaters. These standards will take effect of the effective date of a federal test procedure that converts Uniform Energy Factor (UEF) to Energy Factor for these products.~~

Lastly, there appears to be a typo in the Minimum Energy Factor for Electric Water Heaters and a zero was inadvertently omitted. The correct equation for these products is $0.95 - (0.00132 \times V_r)$.

Energy Commission Response:

In section 1605.1(f)(2), the Energy Commission corrected the typo in the equation shown in Table F-3 to be consistent with the standards for electric water heaters shown in 42 U.S.C. section 6295(e)(1). The Energy Commission also added text in the footnote of Table F-3 that states: "If the Secretary adopts federal efficiency standards for water heaters regulated under 42 U.S.C. section 6295(e)(1), these standards shall not apply." This change clarifies that the standards for water heaters regulated under 42 U.S.C. section 6295(e)(1), which apply to water heaters with a storage volume less than 20 gallons, are not effective if the Department of Energy adopts standards for these type of water heaters. No other change is necessary. The adopted regulations already clarify that these standards will take effect on the effective date of a federal test procedure that converts Uniform Energy Factor (UEF) to Energy Factor for these products. The standards set forth in section 1605.1(f)(2) are federal standards. Therefore, the EPCA preemption provisions do not apply.

Comment 9g

Section 1603. (1) Approved Industry Certification Programs

While it is not necessarily a new definition, and updates would not be required to address the stated scope of this rulemaking, we would like to point out that the definition for Approved Industry Certification Programs in Title 20 is not suited to regulation of components, such as fans, embedded into other products. The metric being discussed for fans is an operating map, and therefore some points of operation would meet the efficiency standard and some points would not. Also, depending on the scope of the fans regulation, some California-regulated fans could be installed in either California or federally regulated products. This has the potential to create confusion and conflict with subsections (b), "clearly and distinctly indicate which appliances meet the applicable federal standard but do not meet an applicable California standard, which shall be identified;" and (c) "where there is no federal standard, clearly and distinctly indicate which appliances do not meet an applicable California standard which shall be identified." AHRI recommends careful review of this section when considering standards

for components of state and federally regulated products, and for standards which are regulated on an operating map rather than a single point.

Energy Commission Response:

No change is required. This comment is out of the scope of this rulemaking. The Energy Commission is not adopting standards for fans in this rulemaking. Comments can be sent to the current fan rulemaking (Docket #17-AAER-06), which is considering efficiency standards and test procedures for fans.

Comment 9h

Section 1604.(c)(3) Test Methods for Central Air Conditioners

The 2015 federal test procedure eliminated the “Highest Sales Volume Tested Combination” (HSVTC) requirement for residential central air conditioners and heat pumps and instead moved to “tested combinations.” AHRI recommends CEC revise this section to align with requirements of 10 C.F.R. § 429.16.

Energy Commission Response:

The recommended change was implemented. In section 1604(c)(2), the Energy Commission amended the regulations to state that “For each basic model of central air conditioner and heat pump, test the individual model and combination as required in 10 C.F.R. section 429.16(b)(2)”. Also, the Energy Commission deleted section 1604(c)(3) regarding the testing of split system central air conditioners and compressor-containing units with the non-compressor-containing units most likely to represent the highest national sales volume for the combined equipment.

Comment 9i

Section 1605.1 Table A-12 Standards for Walk-in Cooler and Walk-in

CEC lists compliance date for of June 5, 2017 in Table A-12; however, on February 1, 2016 DOE issued enforcement guidance (Exhibit-1) for of the four energy conservation standards applicable to dedicated condensing refrigeration systems operating at medium temperatures that are promulgated at 10 C.F.R. § 431.306(e), provided that the violations are related to the distribution in commerce of WICF refrigeration system components manufactured prior to January 1, 2020. AHRI recommends CEC acknowledge this enforcement guidance in Title 20 by updating the date in Table A-12 to be effective on January 1, 2020.

Exhibit 1

**Enforcement Policy Statement Regarding
Walk-in Cooler/Walk-in Freezer Refrigeration Systems**

Issued: August 14, 2015
Updated: February 1, 2016

In an exercise of its enforcement discretion, DOE will not seek civil penalties or injunctive relief concerning violations of the four energy conservation standards applicable to dedicated condensing refrigeration systems operating at medium temperatures that are promulgated at 10 C.F.R. § 431.306(e), provided that the violations are related to the distribution in commerce of WICF refrigeration system components manufactured prior to January 1, 2020.

Energy Commission Response:

The recommended change was implemented. In section 1605.1(a)(5)(F), the Energy Commission changed the effective date to reflect that the federal standards for “walk-in cooler and freezer refrigeration systems” apply to products manufactured on or after January 1, 2020, instead of June 5, 2017.

Comment 9j

Section 1606.(a)(1)(F) Submittal Requirements for Split System Central Air Conditioners.

AHRI recommends making updates to this section based on feedback provided above regarding the removal of HSVTC in the current test procedure for split system air conditioners.

Likewise, in Section 1606.(a)(4)(A)c, “for all split system central air conditioners and compressor-containing units, these models were tested with the non-compressor containing unit most likely to represent the highest national sales volume for the combined equipment,” references to HSVTC should be removed as this is no longer consistent with the federal test procedure.

Energy Commission Response:

The recommended change was implemented. The Energy Commission amended the language in section 1606(a)(1)(F) to specify that the data submitted for split-system air conditioners shall be for units tested in accordance with section 1604(c), instead of the highest national sales volume for the combined equipment. Similar change made in section 1606(a)(4)(A)4.c. regarding the declaration for these products.

Oral Comments Received During the April 24, 2018 Lead Commissioner's Meeting

*Laura Petrillo-Groh, PE
Air-Conditioning, Heating, & Refrigeration Institute (AHRI)
4/24/2018
TN #223394*

Comment 10a

First, I would like to thank CEC staff: Carlos, Kristen and the rest of your team for working so closely with us in advance of this regulation. I think that you guys have done a very excellent job. I have a few questions and comments.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 10b

I understand from a conversation earlier today that language, which I thought was new in Section 1603, which I thought added a new definition for an approved industry certification program is just a relocation. Understanding that, I would like to ask CEC staff to consider how these provisions, especially in 1603.1(C)(3)(b) and (c) will be impacted by potential component regulations, particularly for fans. There may be some complications in publishing correct information if there are components that are embedded into other products. Along those lines in Table X, the Regulatory Status Field may also be complicated by a component regulation. So perhaps in the review of that fans regulation someone could see or explain to the public how we could comply with the California CCMS MAEDbS database and publish information about regulation of components.

Energy Commission Response:

No change is necessary. The Energy Commission moved existing language regarding the approved industry certification program from section 1602(a) (definition section) to section 1603(b) where it is a more appropriate fit. Regarding fans, the Energy Commission is not adopting standards for fans in this rulemaking. This is out of the scope of this rulemaking. Comments can be sent to the current fan rulemaking (Docket #17-AAER-06), which is considering efficiency standards and test procedures for fans.

Comment 10c

The other question I have is related to 1605.1, I believe Tables A-10 and 11, the standards for walk-in coolers and freezers. CEC lists a compliance date of June 5th, 2017, which technically is in alignment with the federal reg. However, on February 1st of 2016 DOE issued enforcement guidance for four energy conservation standards applicable to dedicated condensing refrigeration systems operating at medium temperatures. And for those products the DOE issued that enforcement guidance, as not enforcement until January 1st of 2020. I'm interested to know how CEC will comply with

that enforcement guidance, whether written in the regulation or issue their own enforcement guidance.

Energy Commission Response:

In section 1605.1(a)(5)(F), the Energy Commission changed the effective date to reflect that the federal standards for “walk-in cooler and freezer refrigeration systems” apply to products manufactured on or after January 1, 2020, instead of June 5, 2017.

Comment 10d

Also, I would be remiss if I did not use this opportunity to suggest that CEC adopt a web service tool for the database. It does take significant man hours in order to make submissions to that database. AHRI and CEC have a special relationship in this term or with this issue, so if there's anything that we can do to help. If there are reservations on CEC's end we would be happy to help instigate that process.

Energy Commission Response:

No changes are necessary. Thank you for your comment. The Energy Commission looks forward to working with AHRI to improve the functionality of MAEDbS.

Comment 10e

And I would also lastly, like to suggest publication of secondary validations for the database. There are times when we, in the programming of our database, end up with conflicts that are time consuming and lead to conflicts in publishing our members' records on time. So if that was at all possible we would appreciate publication of those secondary validations.

Energy Commission Response:

No changes are necessary. The MAEDbS validations are created directly from the regulations and are not available in a publishable format. However, upon request, the Energy Commission can provide information on how a specific validation rule was determined based on the specific test procedure, definitions, and standards for that appliance type.

Kevin Messner
Association of Home Appliance Manufacturers (AHAM)
4/24/2018
TN #223394

Comment 11a

I just wanted to say just thank you. I mean, this is good that you guys are doing this. I looked back at our comments when you started this regular, the more regular updates, the first one and we had pages and pages of comments. And we'll submit written comments on some more details, but the current draft of our comments is significantly shorter and a lot of positive things. So I think this has really been a helpful process where you readdress these on a frequent basis instead of how it used to be, I don't know

how long ago when you started this, six, seven years ago where this -- I don't know when it happened. So thank you. It's really good and really helpful.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 11b

Only one question I had and we'll put in our comments, the battery chargers, I'm reading it right it didn't take out the marking of the BC mark, but that was approved earlier. And I didn't know whether that was just a timing issue, because the proposed language happened before the Business Meeting. We'll comment on that unless there is something that I missed that it was already in there somewhere.

Energy Commission Response:

No change is required. Please see response to Comment 5b.

*Daniel Gleiberman
Sloan Valve Company
4/24/2018
TN #223394*

Comment 12

In the past we have both written comments on various rulemakings that involve appliances with plumbing products and we've been there (indiscernible). Let me be clear today, I'm speaking on behalf of Sloan, the company that I work for. I'm the Manager of Product Compliance and Government Affairs.

Very briefly, when the rulemaking was first proposed during our severe drought and the Energy Commission rightfully looked at changes to lavatories and showerheads, there were some phase-in periods for those that you recalled with products. And different flow rates were being phased in over time to allow full opportunities for product availability. And specifically with showerheads we're coming up on our last iteration, which is by the end of the second quarter of this year. Showerheads sold in California manufactured after a certain date won't be able to flow greater than 1.8 gpm.

When those issues were first raised we had presented both verbal and written testimony of a concern for a specific type of installation, which are institutional-type showerheads. And the need for staff to look further at that and perhaps while the products might be available, that may actually be a flow rate that is not actually conducive to the needs of those particular California institutions.

Moving back to March of 2017, Jerry Desmond, the lobbyist for PMI had written CEC staff with an outline of their recommendation. That was almost a full year ago to the day. About two weeks before this hearing, Mr. Baez responded to Mr. Desmond stating fairly,

because staff is free to do what they want, that at this time staff wasn't looking at that recommendation.

The reason I'm bringing this to the attention of the Commissioner and staff is because the reasoning that staff provided was that they looked at "industry's trends" and they looked at "one company." And based on that review, they decided that there is actually no need for higher flow rates in these very specific institutional settings.

I know this is technical and I will provide all this information before the deadline. But I wanted to take the opportunity to give this testimony in person, because I think it's important to point out that there are already situations in the California Energy Commission regulations. Specifically for prisons and mental institutions for water closets and urinals that allow a higher flow rate.

So this is not unprecedented and I'm just wanting to state I'm somewhat concerned that the staff hasn't really looked at this issue fully. I don't believe they've actually reached out to end users like prisons and mental healthcare facilities that legitimately have a higher need, because of the way those showers are used, for a higher flow rate.

This isn't like (indiscernible) product availability concern on behalf of manufacturers. I'm not stating that these products might not be available already. But I think it would behoove staff to make sure that some types of facilities actually are sought out and researched to make sure that they can live with 1.8. Because as one manufacturer that has dealt with this issue around the entire nation, prisons and high-security health institutes have a very different type of bathing need than the general public, whether it be in a hotel room or a private residence.

And I just don't think the staff has actually taken the time that's necessary to make sure that these flow rates that are now mandated come two months would actually meet the needs of those specific California facilities. And again, I want to thank you, Commissioner McAllister, for all of your help in dealing with the plumbing industry. We value the fact that you turn to us as subject matter experts. And that's why I took the time this morning to give you this additional testimony.

Energy Commission Response:

No change is required. Please see response to Comment 4.

Written Comments Received During the 15-Day Comment Period

*Russell V. Randle
Marian C. Hwang
Atlas Copco North America
7/2/2018
TN #224030*

Comment 13a

According to the July 11, 2018 Consent Calendar, the California Energy Commission (the "Commission") is preparing to adopt significant proposed changes concerning air compressors to 20 California Code of Regulations (C.C.R.) Sections 1601-1609, as set forth in 2018-AAER-10 ("Proposed Rule" or "Proposal"). Atlas Copco respectfully objects to such adoption because of the apparently unintended, but likely substantial adverse effects on Atlas Copco and other manufacturers, as well as the likely creation of significant marketplace confusion caused by inconsistencies with related U.S. Department of Energy ("DOE") rules ("federal rules").

Although the Commission's proposed changes were apparently intended to be consistent with federal test standards, contrary to such assertions, the Proposed Rule seems to have omitted significant parts of the federal rules, portions of which are critical for effectuating a workable California program for our industry, the marketplace, and energy efficiency.

Energy Commission Response:

Although this comment was made with respect to the 45-day language and received well after the 45-day comment period, the Energy Commission is responding to the comment here, as substantially similar comments were also made at the hearing on the 45-day and 15-day language, which was inside the comment period. Please see the Energy Commission's responses to your specific comments below.

Comment 13b

I. Omission of Critical Portions of the Federal Rule and Inclusion of Conflicting Provisions Need to be Addressed for Proper Application of the Testing Requirements.

The Proposed Rule's effort to include the federal test standard failed to include critical portions of the related federal regulations needed to ensure that the test rule works properly and to avoid great increases in compliance costs over the federal testing standard. Such problems will be seriously compounded by inconsistent and potentially conflicting language contained elsewhere in the Proposed Rule. The net result of such omissions and/or conflicts will be the imposition of required testing of every model a company offers for sale in California, even though the federal test rule does not require such testing because it provides several compliance alternatives plainly omitted from the Proposed Rule. That change, if read literally, could greatly increase compliance costs over the federal test rule, perhaps by several times the likely federal cost. The Obama Department of Energy (DOE) made clear that the federal compliance alternatives, missing from the California Proposal, were critical in its decision that the federal test standard was economically justified. Without these compliance alternatives, the substantial compliance costs of the California proposal cannot be justified based on the federal test standard. Moreover, the testing of every model would do virtually nothing to improve the accuracy of the information about energy efficiency that would be reported.

Energy Commission Response:

Thank you for your comment. Please see Comments 13e, 13f, 13g, and 13h for the Energy Commission's responses to your detailed comments on this topic.

Comment 13c

II. Failure to Coordinate Development of the Proposed Rule with Critically Related Proceedings to Develop Air Compressor Efficiency Standards.

The Commission has not coordinated the air compressor requirements of this Proposal with the parallel proceeding it has underway to develop a substantive energy efficiency standard for air compressors under Docket No. 2018-AAER-5. The Commission's failure to do so may create significant inconsistencies and regulatory confusion, particularly if California prevails in its pending legal challenge to force the Trump DOE to issue the Obama DOE energy efficiency rule it withdrew from publication on January 23, 2017. A decision in that case, Natural Resources Defense Council, et al., v. Perry, et al, (consolidated case), No. 18-15380, 18-15475 (9th Circuit), now pending before the U.S. Court of Appeals for the Ninth Circuit ("Court of Appeals"), is expected this calendar year, as briefing will be completed on July 16, 2018. If the Court of Appeals agrees with the district court and orders that the federal efficiency standard for air compressors must be adopted, then the current inconsistencies between the state's testing requirements and the corresponding federal rules will be even more pronounced, thereby resulting in confusion amongst manufacturers and the marketplace, and needless testing requirements with the attendant increasing costs.

Energy Commission Response:

Thank you for your comment. Please see Comments 13i and 13j for the Energy Commission's response to your detailed comment on this topic.

Comment 13d

III. Deferral of Compressor Portions of This Proposal and Coordination with the Substantive Rulemaking for Compressor Efficiency Is Warranted.

Atlas Copco respectfully but strongly recommends that the Commission defer action on the portions of the rule governing air compressors, and instead develop such rule in tandem with the substantive air compressor efficiency standard it is preparing to propose in Docket No. 2018-AAER-5. That coordination will better serve energy efficiency, industry compliance, and more reliably and accurately inform California purchasers about the performance of air compressors being considered for purchase.

Energy Commission Response:

Thank you for your comment. Please see Comment 13j for the Energy Commission's response to your detailed comment on this topic.

Comment 13e

I. Critical Portions of the Federal Test Rules Were Omitted in the Commission's Proposed Rule.

Air compressors are clearly intended to be covered by the Proposed Rule. Section 1601(s), page 2 of the Proposal, would be amended to add "air compressors" to the scope of equipment regulated by the Commission for energy efficiency. The addition of air compressors to section 1601 is critical because under section 1603(a), p. 105, that inclusion will trigger a variety of additional requirements, particularly requirements for

testing each basic model of compressor sold in California within one year of adoption of the rule.

The Commission's Proposed Rule will be far more burdensome for the regulated industry than the federal testing standard because the Commission has omitted a number of key terms from the related federal rules, provisions addressing Alternative Efficiency Demonstration Methods (AEDMs). The Commission proposal also provides no indication that prior valid test data using the industry test method, IS012I7 can be relied upon to satisfy testing requirements, and omits critical definitional language about different classes of air compressor (e.g. reciprocating, lubricated, fixed speed) suggesting that the Commission intends to regulate many more kinds of air compressors than the federal test or proposed federal efficiency standards would regulate.

Energy Commission Response:

No changes are necessary. The commenter has omitted key terms from what is included in the scope of the changes to section 1601(s). The adopted changes to section 1601(s) cover “compressors, which are federally regulated commercial and industrial air compressors.” Under the definitions in section 1602(a) of the Appliance Efficiency Regulations, to be considered federally regulated commercial and industrial equipment, both a federal test method and a federal standard must exist for that equipment type. A federal test method exists for compressors; however, there are no federal standards for these products. Because of this, compressors do not meet the criteria to be considered federally regulated under the Appliance Efficiency Regulations; therefore, there are no requirements that need to be met for this equipment type because they are not in the scope of the regulations. The Energy Commission has adopted language in sections 1606(a) and 1608(a) that make explicit that air compressors would be exempt from the certification requirements. If DOE were to adopt federal standards for compressors, then they would be federally regulated and within the scope of the Appliance Efficiency Regulations. However, because the language in section 1606(a) states that compressors are exempt from certification, there would be no obligation for compressor certification unless this language is modified in a future rulemaking. Please see Comments 13f, 13g, and 13h for responses to specific comments on this topic.

Comment 13f

A. Omissions Related to Alternative Efficiency Demonstration Methods (AEDMs).

The Commission's Proposal has omitted key parts of the federal test rule package in ways which will substantially increase the burden of this testing. Proposed section 1604(s)(3, page 126, provides that:

(s) Electric Motors and Compressors....

(3) Compressors. The test method for compressors is 10 C.F.R. section 431.344 (Appendix A to Subpart T of 10 C.F.R., § 431).

Unfortunately, the full federal test rule package, as promulgated on January 4, 2017, 82 Fed. Reg. 1052-1106, included a number of provisions omitted here, provisions which are critical for ensuring that the test rule with its associated compliance options are workable, financially feasible and not unduly burdensome within the bounds that federal

law requires. While the omission was undoubtedly unintentional, the effects of such omission will be substantial and adverse to manufacturers of air compressors offered for sale in California.

From the compliance cost point of view, the most significant omission is the Proposed Rule's failure to include any reference to 10 C.F.R. § 429.70(h), which allows for Alternative Efficiency Demonstration Methods (AEDMs). In the federal DOE's notice explaining its conclusions about the test rule, it made clear that the use of AEDMs was very important to reducing the testing burden on manufacturers:

DOE concludes that the allowance of an AEDM in the place of testing sufficiently addresses the industry's concern regarding testing the limited number of low - shipments -volume compressor models that remain in scope. For these reasons, DOE concludes that the test procedures and associated representations requirements established in this final rule are not unduly burdensome.

82 Fed. Reg. 1096 (Jan. 4, 2017). The federal statute requires that DOE determine that a test standard "shall not be unduly burdensome for industry to conduct." Section 343(a)(2), Energy Policy and Conservation Act (EPCA), 42 U.S.C. § 6314(a)(2).

Atlas Copco's concern about the omission of any AEDM reference from the Commission's Proposed Rule is increased by the language found elsewhere in the Proposal concerning AEDMs. While the Commission Proposal does indeed provide for AEDMs, such provision applies to small electric motors ---- but NOT to air compressors. Thus, in Proposed Section 1604(s)(2), page 126, the Commission states that:

(2) **Small Electric Motors.** The test methods for small electric motors are 10 C.F.R. sections 431.443, 431.444 and 431.445, ***including but not limited to provisions on alternative efficiency determination method (AEDM) and additional testing requirements concerning selection of models to be tested if an AEDM is to be applied.***

(Emphasis supplied). Under the usual rules for construing regulatory language, the omission of similar language from Section 1 604(s)(3) would likely be construed as the Commission's intentional decision NOT to allow AEDMs for demonstrating air compressor compliance.

While Atlas Copco doubts that the Commission intended to impose an extra heavy burden on the air compressor manufacturing industry, the adverse financial and regulatory impacts of the Proposal's omission threaten to be very substantial, unless this omission is clearly remedied by inclusion of references to the rest of the test rule package adopted by DOE, including 10 C.F.R. § 429.2, (a), 429.63(a), 429.70(h) (AEDMs), 429.1 34Q, 431.342 (definitions), and 431.343 (materials incorporated by reference).

Energy Commission Response:

No change is necessary. Alternative efficiency determination methods (AEDMs) are methods for determining the efficiency of regulated equipment in lieu of testing. AEDMs are not relevant in this rulemaking since, as explained above, compressors are not currently in the scope of the Appliance Efficiency Regulations (see Comment 13e), unlike small electric motors, which are federally regulated (having both a federal test procedure and a federal standard). Because the Energy Commission has not imposed any affirmative obligations to test, certify, or mark compressors, there is no need at this time to consider AEDMs to stand in lieu of testing requirements.

Comment 13g

B. Omissions Related to Use of Prior 1S01217 Test Data to Satisfy Testing Obligations Under Section 1603(a).

The test method adopted by DOE is expressly based on ISO 1217:2009 as updated in 2016. In its notice promulgating the rule, and at the hearing, DOE indicated, with some caveats, that it would allow manufacturers to rely on valid data from previous 1S01217 testing in order to meet the test and certification requirements of the rule. See 82 Fed. Reg. 1076, 1089-90, 1104 (Jan. 4, 2017)

The Commission's proposal is silent on this critical issue. The literal terms of Proposed section 1603(a) indicate that new testing would nonetheless be required for "each basic model of appliance within the scope of Section 1601 of this Article, using the applicable test method listed in section 1604 (of this Article, unless otherwise provided in subsection (c) of this section [concerning federal waivers]." Commission Proposal, page 105. This test obligation is a duplicative and costly requirement that will not result in any benefit to energy efficiency or consumer protection, but will apparently require the testing of all compressor models within one year of adoption of this rule.

Energy Commission Response:

No changes are required. This comment appears to present two issues – (1) a request to incorporate ISO 1217:2009 in the Energy Commission's regulations for the compressor test procedure, and (2) to address whether re-testing of compressors using the federal test procedure is necessary.

(1) The federal test method for compressors that is incorporated by reference into the regulations (10 C.F.R. Part 431, Appendix A to Subpart T) itself incorporates by reference the ISO 1217:2009(E) test procedure. Under the California Administrative Procedure Act, it is not necessary for the Energy Commission to incorporate by reference documents that are incorporated by reference into the document that it is incorporating by reference. The ISO 1217:2009 test procedure is part of the test procedure in Title 20 as it is incorporated into the CFR. Therefore, a change is not necessary.

(2) Section 1603(a) requires testing of products within the scope of section 1601 using the applicable test procedure in section 1604, and further requires that the test laboratory conducting that test have conducted tests using the applicable test method within the previous 12 months (among other requirements). Under the proposed

regulations, compressors are not currently considered to be in the scope of section 1601 (see Comment 13e), so no requirements need to be met for this equipment type. However, in the event that compressors become regulated due to the enactment of a federal standard, then testing must occur pursuant to section 1603(a) and the test procedures in section 1604. This is necessary to ensure that testing is robust and to ensure that appliances meet the applicable efficiency standards.

Comment 13h

C. Omissions Related to Critical Definitions of Compressor Classes Suggest That the Commission May Intend to Impose Testing Obligations on Many More Kinds of Air Compressor Than Governed By the Federal Test Standard.

The Commission's Proposal, as it currently stands, has taken some, but not all of the definitions from the federal rule, thereby creating significant confusion. Moreover, by combining the sections on electric motors with air compressors, the Commission's Proposal compounds the confusion by including definitions for both classes, while omitting a number of important compressor definitions from Proposed Section 1602(s), pages 75-79, thereby potentially broadening the scope of compressor classes subject to proposed testing. While Atlas Copco doubts that the Commission intends to broaden the testing categories in this fashion, the failure to include the full set of federal definitions may have that effect. At the very least, the omission of these terms sows needless confusion regarding required compliance procedures.

Specifically, the Commission's Proposal omits the below definitions found in 10 COFFER. § 431.342 which are critical to determining what kind of equipment is, in fact, regulated or excluded:

- Brushless electric motor
- Fixed speed compressor
- Lubricant free compressor
- Lubricated compressor
- Maximum flow operating pressure
- Mechanical equipment
- Positive displacement compressor
- Reciprocating compressor
- Rotary compressor

As previously noted, the standard approach to interpreting regulatory language suggests that if some terms are included from one section or another source, but are omitted in other sections, the omissions are intentional. The failure to either simply use 10 C.F.R. § 431.342 and its definitions, or to include all of them if they are to be restated, creates needless confusion over which classes of compressors are to be tested as apparently required by Proposed Section 1603(a).

The increased costs for testing these additional models, which the federal test standard does not require, are potentially large because there are a significant number of compressor classes excluded from the federal testing requirement. Thus, for example, while the federal test rule regulates rotary compressors, it does NOT regulate

reciprocating compressors, based on definitional terms that distinguish reciprocating compressors from rotary compressors. (DOE also found, when it proposed regulation of the energy efficiency of rotary compressors, that such regulation of reciprocating compressors was economically unjustified. 81 Fed. Reg. 31680 (May 19, 2016)). Consequently, the Proposed Rule's failure to include definitional terms that exclude reciprocating compressors from regulation raises significant questions.

Additionally, the failure to distinguish between lubricated compressors and oil -free compressors misses a commercially significant distinction among air compressors, since DOE indicated that it would not impose efficiency standards on oil -free rotary compressors. The Commission's failure to distinguish between lubricating and oil -free compressors raises in the definitions raises further questions about the Commission's intent.

The Proposal's omission of these important federal definitions implies that the Commission intends to require testing of many additional kinds of compressors beyond the scope of the federal test rule and beyond the scope of the withdrawn federal air compressor efficiency standard. If so, this would be a substantial and expensive change from the federal rule, and would engender confusion within the industry and inconsistent information in the marketplace.

Energy Commission Response:

No changes are required. Please note that in the regulations, compressors do not meet the criteria to be considered in the scope of the Appliance Efficiency Regulations (see Comment 13e), and no requirements need to be met for this equipment type. The adopted amendments incorporate by reference "10 C.F.R., Title 10, part 431, subparts A through Y". All of the relevant compressor definitions are found in 10 C.F.R. part 431 Subpart T, which is included in this "A through Y" reference; therefore all of the compressor definitions included in those sections are incorporated by reference as well and may be reasonably relied upon in interpreting the Appliance Efficiency Regulations.

Comment 13i

II. Atlas Copco Compressor Manufacturing Operations and Testing Concerns.

Atlas Copco is a large international company, incorporated in Sweden, with over 5,000 U.S. employees and fifty installations in the United States. The Atlas Copco family of companies includes numerous locations and employees located in California. These include large operations in Costa Mesa, California, making equipment used in liquefied natural gas (LNG) transportation.

Atlas Copco AB, the Swedish parent company, has a long-standing commitment to sustainability, as evidenced by its listing for nine years among the Global 100's list of top 100 sustainable companies in the world. Improved energy efficiency is a major focus of Atlas Copco's compressor research and development, and a major way by which Atlas Copco competes for its customers.

Atlas Copco's operations include several factories in the United States which make or modify air compressors. It employs hundreds of American workers in its compressor operations.

The Atlas Copco family of companies makes and markets over 800 separate models of air compressors, models which are covered by the federal air compressor efficiency test rule. Atlas Copco makes many additional kinds of air compressors, such as reciprocating compressors, which the Obama DOE decided not to regulate because such regulation and testing was not economically justified. In order to meet the testing time line in the Commission's currently proposed rule, which makes no provision for AEDMs or use of prior valid test data, the Atlas Copco family of companies would have to resort to extensive and very expensive third -party testing for many models of compressor.

The cost of testing each compressor model has climbed from about \$1,500 per model to more than \$2,000 per model. There are few laboratories in the United States capable of conducting the testing, so there is limited capacity for a rush of testing. In addition, while the federal test standard is based on the ISO 1217-2009 test standard, DOE made a series of small but potentially significant changes to the test method in the regulation, as compared to ISO 1217, changes on which Atlas Copco and the industry trade association, the Compressed Air and Gas Institute (CAGI), are still seeking clarification. These revisions will likely require these laboratories to change their procedures going forward before they can assure that new testing is conducted in complete conformity to the new federal test standard, even though the individual changes are relatively small.

Testing every compressor model will impose a test burden on Atlas Copco in excess of several million dollars, much of which could be avoided by use of AEDMs and by the use of prior valid ISO 1217 data. Atlas Copco believes that many other companies in its industry will also face significant test burdens unless AEDMs and prior valid data generated using the ISO 1217 test method are available for compliance certification purposes.

While Atlas Copco is concerned about wasting money on duplicative testing, its larger concern is that regulatory confusion about the federal test method will be badly compounded by adoption of the proposed California rule without first making appropriate adjustments and clarification. That confusion threatens to result in inconsistent reporting by the industry, inconsistencies which will falsely suggest that machines with identical test results are substantially different in their energy efficiency. That confusion threatens to create an unfair market place where the most careful manufacturers lose sales to those who are less scrupulous or careful in their compliance efforts.

Perhaps most important from the Commission's perspective, customers making decisions about what kind of air compressor to buy will be given inaccurate information, resulting in the purchase and installation of less efficient compressor equipment than customers intended, to the detriment of the customers and the environment.

Energy Commission Response:

No changes are required. The adopted amendments do not create any new requirements for manufacturers of compressors. Compressors do not meet the criteria to be considered in the scope of the Appliance Efficiency Regulations (see Comment 13e), and no requirements need to be met for this equipment type until a federal standard takes effect for compressors and the Energy Commission through a rulemaking removes the exemption for compressors from the certification requirements, or the Energy Commission undertakes another rulemaking to set state standards for compressors.

Comment 13j

III. Current Regulatory Situation and Pending Litigation.

The January 2017 change of federal administrations has caused great regulatory confusion with regard to the Federal energy air compressor test standard and the efficiency standard for air compressors. That federal government confusion has caused significant testing delays by the air compressor manufacturing sector, as DOE has combined long silences with conflicting and intermittent guidance.

After a long and complicated rulemaking proceeding, the federal DOE adopted a test standard for compressor efficiency on January 4, 2017, a standard cited in the proposed changes to the California Regulations. DOE also tried to adopt an energy efficiency standard at the end of the Obama Administration, but that standard, which was about to be published in the Federal Register on January 23, 2017, was withdrawn January 20 by the Trump Administration.

The validity of the withdrawal has been successfully challenged by the State of California in federal court, but the court's decision was stayed and is now being reviewed by the U.S. Court of Appeals for the Ninth Circuit. Thus it is unclear until the Court of Appeals rules whether there will be a federal efficiency standard for compressors in the near future, and if so, what its compliance date will be. The version proposed for publication would have made that compliance date five years from publication, which would have resulted in a compliance date some time in 2022.

Since that time, DOE has issued enforcement guidance stating that there would be no enforcement of the federal test standard for compressor efficiency until an energy efficiency standard is adopted and its compliance date reached.

<https://www.energy.gov/gc/downloads/enforcement-statement-air-compressor-test-procedures>

Thus, as recently as June 8, 2018, DOE issued updated guidance stating that no air compressor efficiency testing was required until the compliance date for a yet-to-be adopted compressor efficiency rule. This guidance, in DOE's view, apparently justifies its continued refusal to respond in writing to CAGI requests for clarification of key aspects of the federal test rule.¹

This regulatory confusion may be resolved by the pending litigation before the Court of Appeals, which is currently being briefed. The final briefs in that case are due July 16,

2018. Oral argument has yet to be scheduled, but the Court made clear in its order staying the District Court's decision that decision was to be expedited.

If the State of California's position, adopted by the District Court, is affirmed by the Court of Appeals, then DOE will be required to publish its December 5, 2016 version of the air compressor efficiency standard, thereby setting compliance dates and having a material effect on the Proposed Rule now before the Commission. With that uncertainty resolved, the Commission can better tailor its rule so that it helps improve energy efficiency in this sector without imposing duplicative, needlessly costly, or conflicting test obligations.

To address such concerns, Atlas Copco respectfully suggests that the Commission defer adoption of the portions of the current Proposed Rule under 2018-AAER-10 concerning testing, labeling and certification of air compressors. Instead, Atlas Copco recommends that any such changes be considered and adopted together with any air compressor efficiency standard chosen by the Commission, after addressing the concerns that Atlas Copco has identified with the Proposal's efforts to integrate the federal test standard into the California rules. That proceeding, Docket No. 2018-AAER-5, is thought likely to result in a substantive efficiency standard late this year or early next year, at a time when there is a reasonable possibility that the Ninth Circuit litigation will be resolved.

¹ Section 1603(c), page 105, provides that when a waiver of a federal test standard has been granted, compliance testing is to be based on the federal standard as revised by the waiver. Because of the legal limbo of the federal efficiency standard, DOE to date has refused to act on timely filed test waiver petitions. The case of an Atlas Copco subsidiary, Quincy Compressor, demonstrates this problem. The federal test standard requires ambient temperatures to be below 90 °F for testing; however, Quincy Compressor's location in Alabama means that during most of the summer, Quincy cannot conduct tests unless it spends over \$500,000 to build an air conditioned test facility. Quincy sought a waiver of the ambient temperature requirement, based on well known facts about American geography, but DOE still refuses to act. Some additional time is warranted to address the waiver issue in the California rule, or to explore the possibility of a California waiver procedure.

Energy Commission Response:

No changes are required. The litigation (NRDC et al., v. Perry, et al; consolidated No. 18-15380 and 18-15475) before the Ninth Circuit Court of Appeals, which pertains to the DOE's failure to publish a final rule that establishes efficiency standards for compressors, is not relevant to the Energy Commission's decision to adopt existing federal regulations related to compressors in this rulemaking. The test method and definitions regarding compressors that are shown in this rulemaking reflect federal law that is currently in effect. Because compressors do not meet the criteria to be considered in the scope of the Appliance Efficiency Regulations (see Comment 13e), no state-specific requirements need to be met for this equipment type.

If DOE publishes the final rule that establishes federal standards for compressors, then compressors would be federally regulated and within the scope of the Appliance Efficiency Regulations. However, because the adopted changes in section 1606(a) state that compressors are exempt from certification, there would be no obligation to certify compressors to California unless this language is modified in a future rulemaking. The

Energy Commission has a separate docket open, which may consider whether to adopt state standards for compressors. Docket #18-AAER-05 is an appropriate place for discussion related to definitions, certification, and efficiency standards for compressors. The Energy Commission may also make changes in that docket to language that was adopted in this rulemaking.

*Bruce C. McFee
Sullivan-Palatek, Inc.
7/2/2018
TN #224080*

Comment 14

While the goal of improved energy efficiency is a noble one, compressed air systems are often customized and very complex. Unlike household appliances that function in standalone operations, compressors are usually integrated into incredibly unique and diverse systems that must be balanced. Therefore, any effort to place an efficiency standard on the air compressor component must also consider how the standard will impact air compressor systems.

Many people consider compressed air as a fourth utility, behind only electricity, water, and natural gas utilities. The applications of compressed air are broad, affecting manufacturing, energy production, food packaging, water treatment, vehicle maintenance, construction and almost anything else that uses mechanical automation. Likewise, the diverse range of compressed air users may include manufacturing plants, hospitals, dairy farms, underground mines, dry cleaners, small repair shops, pharmaceutical laboratories, large office buildings and outdoor construction sites and many more. The diverse nature of these uses requires many specialized products that cannot be easily regulated in a one size fits all standard.

In the event we could no longer use compressed air and no substitute was implemented, the standard of living we know would likely cease to exist. Therefore, any good social policy will support the effective use of compressed air.

Compressed Air Challenge: Several decades ago, the US Department of Energy (DOE) and the Compressed Air & Gas Institute (CAGI) established a program focused on improving the energy efficiency in compressed air systems. CAGI is the US based trade association representing manufacturers of compressed air equipment. The program named the Compressed Air Challenge has a purpose of helping industry lower the cost of energy in a compressed air system.

In addition to helping users of compressed air identify wasteful air leaks, it focuses on optimization of system design as a way to save energy. A compressed air energy audit usually examines whether a system is using the correct air pressure, whether there is a better way to handle irregular periods of compressed air usage, whether the piping and air storage system is appropriate for the application, whether the system starts too often, whether the filtration system used to meet unique air quality needs is appropriate for the

system and many other items that might reduce energy usage. As a result, a good energy audit can reduce energy consumption by 10-50%.

The Department of Energy Test Procedures: although currently part of the Federal Register, the Test Procedures rule is on hold for an indefinite period of time until other aspects of compressor rules can be resolved. It appears from the link used by the California Energy Commission that only a subset of the DOE Test Procedure rule is being considered, thus you may need to locate the link for the full rule.

Also note that a second component of DOE's rule making process covered standards. While DOE presented a final version of the compressor standards rule, it is not presently included in the Federal Register. Three points coming out of the standard rule included that 1) the rule would result in a 6/10 of one percent reduction in energy consumption by covered compressors, 2) The rule was expected to cost manufacturers \$121.3 million in costs of redesigning their products, and 3), the manufacturers were being allowed five years before the products needed to meet this standard.

During the rule making process with DOE, CAGI and company stakeholders were provided numerous opportunities to comment and become familiar with the DOE rule. As noted by CAGI, the industry already has a standard for measuring the performance of compressed air that is different than the one proposed by DOE.

The proposed DOE test procedure makes substantial changes to past methods testing that was used by industry. This includes a sampling system that may be acceptable for monitoring high volume appliance products, but did not make sense for air compressors that have so many variations of machines and machine features.

In addition, the rules did not accommodate the needs of small volume specialty equipment, nor did it accommodate the issue that compressor efficiency may be different at different pressures.

For instance, there may be numerous designs using custom motors for indoor use, outdoor use or explosion proof designs when compressors are used near flammable materials. Others are designed to handle humid or salty air conditions. Each system, whether NEMA 4 or NEMA 7 represents a different configuration and each motor type also creates a different model that must comply with the performance standard. Some compressors need to operate in a cold environment. Because of freeze up issues, special consideration is given to the air flow direction on intake and exhaust. Also the aftercooler configuration might be unique, in some cases a stainless steel aftercooler is required, in other cases the size of the aftercooler is varied. The design requirements are different for a compressor planned for indoor use. If the environment is in a hot desert, the design requirements would be different again. In many cases where heat is a concern, a water cooled compressor is needed, demonstrating an additional distinction for custom applications.

Another variation that might occur with special inlet and downstream filtration that is needed for a custom application, but ends up changing the compressor package and possibly its efficiency.

Compressors often operate at different output pressures. Published pressures often consist of 100 psi, 115 psi, 125 psi, 150 psi, 175 psi and 200 psi. While compressor units can usually operate at multiple pressure ranges, a compressor pump model has a sweet spot for energy efficiency and is unlikely to perform identically at each pressure. Considering the different horsepower ranges in CAGI categories, we have 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 75, 100, 125, 150, 200, 250, 300, 350, 400 and 450 horsepower model, each size needing to accommodate the different variations of motors, temperature considerations, pressure differences and other custom type applications needed by the customers.

The number of possible models covered by the regulation can easily be in the thousands. Many of these models end up being built for the first time. Not only is there a cost of testing, but the manufacturer takes a risk that custom variations might not pass the energy test. In the event that no solution is found to accommodate custom configurations, consumers might find that manufacturers will no longer supply specialty models in California.

Current CAGI Performance Verification Program of rotary compressors: CAGI also oversees a voluntary performance verification program where manufacturers provide selected models for testing by a third party. The purpose of this testing was to bring confidence to the consumer public that performance data could be relied upon. The program also has brought increased attention to the energy efficiency ratings on compressors and forced manufacturers to make improvements to their compressor packages.

Conclusion: While most of the compressor manufacturing industry is based outside California, we believe that implementation of this rule will impact users of compressors in California and its residents. The DOE analysis expected energy savings of 6/10 of one percent nationwide with a cost to manufacturers of \$121.3 million. At least five of the manufacturers and packagers analyzed by DOE were classified as small business.

Since the rule has not yet been implemented at the federal level, many of the stakeholders have still been working with DOE officials attempting to address some of its known problems.

The federal rule also was drafted with a five year time delay after admission to the Federal Register before any standard would take place to give manufacturers time to change their products and adjust testing procedures.

Before implementing this rule the California Energy Commission should analyze what portion of manufacturers will participate in a program unique to California, that changes decades of past practice in testing, and whether withdrawal of custom products might harm California consumers and end users. In addition the California Energy Commission

should analyze the impact of changes to compressor offerings on the full compressed air system as outlined in the above focus on the Compressed Air Challenge.

Energy Commission Response:

No changes are necessary. The adopted regulations do not create any new requirements for manufacturers of compressors. The changes to section 1601(s) cover “compressors, which are federally regulated commercial and industrial air compressors.” Under the definitions in section 1602(a) of the Appliance Efficiency Regulations, to be considered federally regulated commercial and industrial equipment, both a federal test method and a federal standard must exist for that equipment type. A federal test method exists for compressors; however, there are no federal standards for these products. Because of this, compressors do not meet the criteria to be considered federally regulated under the Appliance Efficiency Regulations; therefore, there are no requirements that need to be met for this equipment type because they are not in the scope of the regulations. The Energy Commission has adopted language in sections 1606(a) and 1608(a) that make explicit that air compressors would be exempt from the certification requirements. If DOE were to adopt federal standards for compressors, then they would be federally regulated and within the scope of the Appliance Efficiency Regulations. However, because the language in section 1606(a) states that compressors are exempt from certification, there would be no obligation for compressor certification unless this language is modified in a future rulemaking.

Aykut Yilmaz
Air-Conditioning, Heating, & Refrigeration Institute (AHRI)
7/9/2018
TN #224089

Comment 15a

We appreciate staff’s attention to our May 14, 2018 comments on the 45-day Language. We thank the Commission for removing references to High Sales Volume Tested Combinations in Sections 1603(c)(3), 1606(a)(1)(F), and 1606(a)(4)(A)4.c, and for modifying the effective date of standards for “walk-in coolers and freezer refrigeration systems” in Table A-12.

Energy Commission Response:

Thank you for your comment. No change is requested.

Comment 15b

Definitions – Editorial Changes

We note that “HI-A” and the “Hydronics Institute section of AHRI” are not referenced in the proposed Title 20 language and may be deleted.

Section 1604 correctly lists AHRI’s current address. However, effective August 6, 2018, our new address will be 2311 Wilson Blvd, Ste 400, Arlington, VA 22201. This should be updated in the regulation so readers have the best available contact information.

Energy Commission Response:

No change is required. The new address will not be effective until August 6, 2018. Updates to contact information can be added in a separate, expedited rulemaking.

Comment 15c

Definitions for Water Heaters

We appreciate the Commission's revision to the definition of "residential-duty commercial water heater" to reflect the U.S. Department of Energy's definition of the same term. However, we are disappointed that the Commission did not address the confusion caused by introducing two different definitions for each set of defined water heater terms to distinguish between consumer products and commercial and industrial equipment. Specifically, the definitions in question are as follows:

- Electric instantaneous water heater
- Electric storage water heater
- Gas-fired Instantaneous water heater
- Gas-fired storage water heater
- Oil-fired Instantaneous water heater
- Oil-fired storage water heater

This lack of distinction creates confusion. For example, the proposed definition of "grid-enabled water heater" refers to an "electric resistance water heater" with specific criteria, none of which clearly identifies it exclusively as a consumer product, as the Code of Federal Regulations (CFR) does via reference in Part 430. We reaffirm our recommendation that each definition be clearly identified as "consumer" or "commercial and industrial" (alternatively simply "commercial") as part of the defined term. Furthermore, those terms should be used in the following definitions where the distinction is important: "grid-enabled water heater," "instantaneous water heater," "storage water heater," and "storage-type instantaneous water heater."

An alternative approach would be to keep the language as-is but separate section 1601(f) into two subparts, consumer water heaters and commercial water heaters, to mimic the differentiation inherent in the CFR under parts 430 and 431, respectively.

Energy Commission Response:

No changes are necessary. The relevant water heater definitions are identical to the federal definitions, or the Energy Commission added clarifying text ("consumer product," "commercial and industrial," etc.) where appropriate, to specify product types. The language in the standards (section 1605.1(f)) explains which standards apply to the water heaters, making the distinction if the product is a consumer product or not. The existing regulations along with the adopted amendments make clear what product classification the definition applies.

Comment 15d

Section 1604(c)(4) Test Methods for Heat Pump Water Heating Packages

AHRI recommends updating the test methods for Heat Pump Water-Heating Packages referenced in section 1604(c)(4) to the most recent consensus standard: AHRI 550/590-2015 (I-P) with Addendum 1. This version was published in 2017.

The reference should also be updated in the list of standards at the end of section 1604.

Energy Commission Response:

No change is necessary. The Energy Commission made every effort to include the most recent federal language in the express terms. Because the Code of Federal Regulations changes over time and is a moving target, changes to the federal regulations can occur during the Energy Commission's rulemaking process. In order to establish final express terms and complete the rulemaking process, a cutoff date was necessary. In this case, with some limited exceptions, the cutoff date was January of 2017. This suggested change can be addressed in a future rulemaking.

Comment 15e

Section 1604(f)(1) Requirements for "Residential Water Heaters"

In 1604(f)(1), the Commission uses the undefined term "Residential Water Heaters." This further supports our earlier comment on the need to clarify the water heater definitions in section 1602. The Commission should use "consumer" instead of "residential" in this definition, as this term better aligns with the federal categorization of these appliances as well as several of CEC's own proposed definitions that refer to those types of water heaters as "federally regulated consumer product" (*emphasis added*).

Energy Commission Response:

No change is required. The required federal test method that is referenced in section 1604(f)(1) (10 C.F.R. Appendix E to Subpart B of Part 430) does not use the phrase "consumer product." Rather, it uses the phrase "residential water heater." Therefore, in section 1604(f)(1), the Appliance Efficiency Regulations use the same nomenclature as DOE.

Comment 15f

Table F-3 Standards for Water Heaters Regulated Under 42 U.S.C. 6295(e)

While AHRI appreciates staff's attempt to clarify the language of the footnote in Table F3 in Section 1605.1(f)(2) and its correction of the minimum energy factor for electric water heaters, we continue to believe that this entire section continues to add unnecessary confusion to CEC's requirements for these products and violate EPCA's preemption provisions (42 U.S.C. 6297(c)). As the section title and its categorization makes clear, this provision only applies to federally regulated water heaters. It is the U.S. Department of Energy's role to develop standards for these products. At present, there are no minimum standards for storage models less than 20 gallons in U.S. Department of Energy regulations. The EF standard cannot be applied through a reverse conversion factor as suggested by staff's note, and it is a violation of preemption for California to include a minimum standard for these federally regulated products.

The only foreseeable scenario where this table could be meaningful is a negative one: where the Department of Energy creates a backwards conversion from UEF to EF but sets up different compliance levels, timelines, or rules than specified in CEC's table. This would lead to a direct preemption violation.

This table will cause significant confusion without creating any clear benefit. Until DOE takes further action on water heaters not currently included in the requirements of 10 CFR 430.32, Table F-3 will only cause people trying to comply with CEC's regulations to mistakenly assume that Table F-3 may apply to such water heaters. Subsequently, once DOE takes action to set UEF standards for water heaters such as mini-tank water heaters, this table will no longer apply and will further confuse people who must then comply with the federal regulation instead of Table F-3. The benefit of adding this table is negligible, and its potential costs through added confusion and potential preemption concerns are significant.

Energy Commission Response:

No changes are required. The Energy Commission recognizes that the Department of Energy has not set minimum efficiency standards for water heaters with a storage volume less than 20 gallons. However, the Energy Commission added the federal standards for water heaters with a storage volume less than 20 gallons because Congress, in 42 U.S.C. section 6295(e)(1), established energy conservation standards that apply to all water heaters regardless of their storage volume. Because these federal standards preempt state standards, the Energy Commission removed all the existing state standards for water heaters with a storage volume less than 20 gallons, and made changes to reflect the existing federal standards in section 6295(e)(1), which apply to water heaters with a storage volume less than 20 gallons. The Energy Commission acknowledges that the current federal test procedure cannot be used to determine compliance with the federal standards set in statute. Therefore, the Energy Commission has added clarifying language in the footnote in Table F-3 that states that the federal standards in section 6295(e)(1) do not apply until the federal test procedure is updated to convert Uniform Energy Factor to Energy Factor for these products, and do not apply if the Department of Energy adopts regulations to update the standards for water heaters regulated under section 6295(e)(1).

*Frank Mueller
Kaeser Compressors, Inc.
7/9/2018
TN #224097*

Comment 16

Kaeser Compressors, Inc. has concerns about the proposed changes to Title 20, Sections 1601-1609 that include air compressor testing procedures. While the proposed test procedure does reference the federal test procedure, Title 20 does leave out a good portion of that federal rule. The federal rule is:

10 CFR Parts 429 and 431
[Docket No. EERE-2014-BT-TP-0054]
RIN 1904-AD43
Energy Conservation Program: Test Procedures for Compressors

It was published in Vol. 82, No. 2 of the Federal Register on January 4, 2017.

The fact that Title 20 does not include the entire federal rule may lead to considerable confusion. Title 20 leaves out any mention of 10 CFR Part 429 and many of the definitions listed in the federal rule. We are bringing this to your attention in the belief that this was simply an oversight, as the state regulations would have to be aligned with an existing federal regulation.

Given the amount of work involved in rewriting this proposed change to Title 20, Kaeser Compressors, Inc. would like to suggest that the CEC drop the compressor testing language and make that part of the proposed compressor efficiency standard (Docket No. 2018-AAER-5) that is currently being considered. That would also allow time for the current law suit to compel the USDOE to publish their energy efficiency standard on compressors to make its way through the courts.

Energy Commission Response:

No changes are required. The adopted changes to section 1601(s) cover “compressors, which are federally regulated commercial and industrial air compressors.” Under the definitions in section 1602(a) of the Appliance Efficiency Regulations, to be considered federally regulated commercial and industrial equipment, both a federal test method and a federal standard must exist for that equipment type. A federal test method exists for compressors; however, there are no federal standards for these products. Because of this, compressors do not meet the criteria to be considered federally regulated under the Appliance Efficiency Regulations; therefore, there are no requirements that need to be met for this equipment type because they are not in the scope of the regulations. The Energy Commission adopted language in sections 1606(a) and 1608(a) that make explicit that air compressors would be exempt from the certification requirements.

If DOE were to adopt federal standards for compressors, then they would be federally regulated and within the scope of the Appliance Efficiency Regulations. However, because the language in section 1606(a) states that compressors are exempt from certification, there would be no obligation for compressor certification unless this language is modified in a future rulemaking.

Alternative efficiency determination methods (AEDMs) for compressors (10 C.F.R. section 429.63) are methods for determining the efficiency of regulated equipment in lieu of testing. AEDMs are not relevant in this rulemaking since, as explained above, compressors are not currently in the scope of the Appliance Efficiency Regulations. Because the Energy Commission has not imposed any affirmative obligations to test, certify, or mark compressors, there is no need at this time to consider AEDMs to stand in lieu of testing requirements.

Regarding the definitions, the adopted amendments incorporate by reference "10 C.F.R., Title 10, part 431, subparts A through Y". All of the relevant compressor definitions are found in 10 C.F.R. part 431 Subpart T, which is included in this "A through Y" reference; therefore all of the compressor definitions included in those sections are incorporated by reference as well and may be reasonably relied upon in interpreting the Appliance Efficiency Regulations.

*Kevin Messner
Association of Home Appliance Manufacturers (AHAM)
7/10/2018
TN #224111*

Comment 17a

AHAM appreciates that CEC incorporated a number of recommendations made in our comments submitted on May 14, 2018. Adopting those recommendations is another step toward harmonization of energy efficiency standards with the Department of Energy (DOE). That being said, AHAM urges CEC to reconsider our recommendations not incorporated in this revision.

Energy Commission Response:

Thank you for your comment. Please see the Energy Commission's responses to your specific comments.

Comment 17b

AHAM supports referencing federal regulations for the definitions (Section 1602). There are numerous long-term benefits in doing so. AHAM appreciates and agrees with CEC's updated testing methods for home appliances citing federal regulations, i.e. Appendices to 10 C.F.R. subpart B of part 430. Each of these appendices also include definitions applicable to the tested product and are the exact same definitions. An update federally will automatically update California definitions instead of going through the entire regulatory process. Separate definitions and the delay that accompanies their update can be problematic and cause unnecessary confusion. This can be the case with the introduction of a new definition, or change to an existing definition affects the testing of a product / component. AHAM strongly urges CEC to consider a transition to referencing DOE definitions in the next iteration of regulations.

Energy Commission Response:

No change is necessary. Please see response to Comment 6a.

Comment 17c

Section 1604. Test Methods for Specific Appliances; (d) Portable Air Conditioners, Evaporative Coolers, Ceiling Fans, Ceiling Fan Light Kits, Whole House Fans, Residential Exhaust Fans, Dehumidifiers, and Residential Furnace Fans

AHAM reiterates the need for differentiation between spot air conditioners and portable air conditioners. They each serve fundamentally different purposes. The proposed changes to the title of this section (Section 1604(d)) and the accompanying table (Table

d-3) only replace “spot” with “portable” while leaving Spot Air Conditioners in the table with a distinct test procedure. We recommend two changes to this test procedure section. First, “spot” should remain in the titles of the sections and related table. Second, although we appreciate CEC acknowledging the DOE test procedure for PACs, inclusion of this federal test procedure in the regulations is premature, and only creates confusion for manufacturers and retailers. Currently, there is no compliance date set for the federal PAC energy efficiency standard and there are no reporting requirements to CEC so listing an unnecessary test procedure will cause confusion over whether something is required for this product.

Energy Commission Response:

No changes are necessary. Please see response to Comment 6d.

Comment 17d

Section 1607. Marking of Appliances (10) Battery Charger Systems (pg. 301)

AHAM understands CEC’s intention to align applicable battery charger regulations with the DOE, as it is a federally regulated product. The Regulatory Advisory bulletin published on June 7, 2018 clearly explains the transition. However, this rulemaking would keep the marking requirements. We understand that this issue is being resolved in another rulemaking (18-AAER-02) and appreciate CEC’s efforts in this area. This could be confusing to manufacturers, as according to the Regulatory Advisory, CEC will no longer require the “BC” mark as of October 1, 2018. AHAM requests CEC add clarifying language in the Final Statement of Reasons that states the “BC” marking is only required for state regulated battery chargers. In addition, with battery chargers now federally regulated, this product should now be under Section 1607(d) with the other federally regulated products.

Energy Commission Response:

No changes are necessary. Please see response to Comment 5b.

Comment 17e

Section 1605.3 State Standards for Non-Federally-Regulated Appliances

LED lighting is critical to appliance range hoods As AHAM stated in previous comments, LEDs are very sensitive to heat and do not function well in temperatures above ambient temperatures. It can be the case that each 20°C increase in temperature will typically drop the life span by 10,000 hours. In addition, the AC to DC driver for the LED is heat sensitive and each 10°C increase in temperature will typically reduce the lifetime of the driver in half. For range hoods, the UL 507 standard used to evaluate hoods allows a maximum temperature of 85°C in the lab test, which is well above ambient. Further, LEDs may not function well in vent hoods when the light is on its lowest setting.

Lamps in some appliances can reach temperatures that make it cost effectively impractical to use typical LED lamps. Even if there are specialty LED lamps that are part of an appliance at time of sale, these would likely not be widely available in retail for customers who need to replace a light bulb. In addition, in a range hood the LED may be enclosed retaining heat and further accentuating the problems with heat. As such, greater exclusion for high temperature application, such as range hoods, is needed for

the General Services Lamps standard, the Small Diameter Directional Lamps standard, and the LED Lamps standard.

Energy Commission Response:

No change is necessary. Please see response to Comment 4.

*R. Christopher Johnson
Compressed Air and Gas Institute
7/10/2018
TN #224112*

Comment 18a

The Compressed Air & Gas Institute (CAGI) provides the comments below regarding Amendments to Title 20, Sections 1601-1609, California Code of Regulations, Docket No. 2018-AAER-10 related to air compressors. We ask the Commission to defer action on compressors until questions related to federal activity in this area are resolved and activity in a related process in California, in Docket No. 2018- AAER-05, has progressed sufficiently.

Energy Commission Response:

No changes are necessary. The test method and definitions regarding compressors that are shown in this rulemaking reflect federal law that is currently in effect. However, compressors do not meet the criteria to be considered in the scope of the Appliance Efficiency Regulations, and no requirements need to be met for this equipment type. The adopted changes to section 1601(s) cover “compressors, which are federally regulated commercial and industrial air compressors.” Under the definitions in section 1602(a) of the Appliance Efficiency Regulations, to be considered federally regulated commercial and industrial equipment, both a federal test method and a federal standard must exist for that equipment type. A federal test method exists for compressors; however, there are no federal standards for these products. Because of this, compressors do not meet the criteria to be considered federally regulated under the Appliance Efficiency Regulations; therefore, there are no requirements that need to be met for this equipment type because they are not in the scope of the regulations. The Energy Commission has adopted language in sections 1606(a) and 1608(a) that make explicit that air compressors would be exempt from the certification requirements. If DOE were to adopt federal standards for compressors, then they would be federally regulated and within the scope of the regulations. However, because the language in section 1606(a) states that compressors are exempt from certification, there would be no obligation for compressor certification unless this language is modified in a future rulemaking. The Energy Commission has a separate docket open, which may consider whether to adopt state standards for compressors. Docket #18-AAER-05 is an appropriate place for discussion related to definitions, certification, and efficiency standards for compressors. The Energy Commission may also make changes in that docket to language that was adopted in this rulemaking.

Comment 18b

The industry and its customers were on a reliable, consistent path of increased efficiency, increased transparency, and increased understanding before there was any consideration of regulation. This beneficial state has been endangered due to the confusion, misunderstanding, and uncertainty that has resulted from the federal activity related to compressor efficiency. The proposed amendments to Title 20 related to compressors, unfortunately, compound the confusion and lack of clarity engendered by the federal activity.

We ask that the Commission help the industry and its customers by deferring action on compressors until the situation related to the DOE rules has been resolved. Any action deemed necessary can be pursued in the related Docket No. 2018-AAER-05. Please consider our input, provided below, and help us continue to advance the interests of end users of compressed air systems.

Energy Commission Response:

No change is required. Please see the responses to Comments 18a, 18c, 18d, 18e, and 18f.

Comment 18c

Consistency in Standards

The compressor industry has developed and used standard methods for testing compressors, embodied in the widely accepted ISO 1217 standard, for over 40 years. During the development of the DOE rules for compressor test procedures, we urged the department to adopt the ISO 1217 procedures and to deviate from them as little as possible. This remains our position, and we ask the Commission to assist us in this regard.

It appears the Commission intended to replicate the DOE test procedure rule; however, the proposed amendments to Title 20 contain significant differences from the DOE procedures and from longstanding industry practice that will aggravate an already untenable situation related to the federal activity.

Energy Commission Response:

No change is required. Please see Comments 18a and 18f for the Energy Commission's responses on this topic.

Comment 18d

Alternative Efficiency Determination Methods (AEDMs): DOE included AEDMs in the federal rules in recognition of the fact that manufacturers in this industry offer many specialized models that are built only infrequently. These specialized models are based on standard models, but they have slight modifications demanded by users to make them suitable for different applications or environments, such as corrosive atmospheres, high temperature environments, etc. For these specialized models, and for larger horsepower compressors, which also are often very low volume products, the lack of availability of units for testing and the costs and effort related to testing very low volume products, present great difficulty.

The proposed Amendments to Title 20 do not appear to permit AEDMs for compressors, which will result in an extreme burden on manufacturers. This burden will not increase transparency, enhance efficiency, or increase the availability of data related to efficiency. In fact, the extra testing will provide no benefit whatsoever.

Energy Commission Response:

No change is required. Alternative efficiency determination methods (AEDMs) are methods for determining the efficiency of regulated equipment in lieu of testing. AEDMs are not relevant in this rulemaking since, as explained above, compressors are not currently in the scope of the Appliance Efficiency Regulations (see Comment 18a). Because the Energy Commission has not imposed any affirmative obligations to test, certify, or mark compressors, there is no need at this time to consider AEDMs to stand in lieu of testing requirements.

Comment 18e

Definitions: The definitions contained in 10 C.F.R. §431.342 have not been replicated in the proposed Amendments to Title 20. This seems to indicate a significant expansion in the types and classes of compressors that are covered by the Amendment beyond those covered by the DOE rule. After extensive study of the market, of the costs and benefits of regulation, and of possible increases in efficiency, DOE limited the rule to a subset of compressors. The lack of sufficient definitions in the proposed Amendment to Title 20 will make it difficult or impossible to limit the scope of the proposed Amendment rules appropriately. We assume this is an oversight, as testing every compressor and compressor type is not justified economically and will harm the industry and its users.

Energy Commission Response:

No change is required. Please note that in the regulations, compressors do not meet the criteria to be considered in the scope of the Appliance Efficiency Regulations (see Comment 18a), and no requirements need to be met for this equipment type. The adopted amendments incorporate by reference "10 C.F.R., Title 10, part 431, subparts A through Y." All of the relevant compressor definitions are found in 10 C.F.R. part 431 Subpart T, which is included in this "A through Y" reference; therefore all of the compressor definitions included in those sections are incorporated by reference as well and may be reasonably relied upon in interpreting the Appliance Efficiency Regulations.

Comment 18f

Existing Data: DOE noted that it would permit manufacturers to rely on data obtained from testing conducted according to the ISO 1217 standard to meet the requirements of the DOE rule for existing models. The proposed Amendments to Title 20 do not provide similar guidance, which seems to indicate that new tests would be required for all compressor models within a one-year span from adoption of the proposed Amendments. It is highly unlikely that such testing could be completed in such a time frame. In addition, the testing will not provide any benefit to consumers, since it would merely duplicate testing that has already been conducted.

Energy Commission Response:

No change is required. This comment appears to present two issues – (1) a request to incorporate ISO 1217:2009 in the Energy Commission’s regulations for the compressor test procedure, and (2) to address whether re-testing of compressors using the federal test procedure is necessary.

(1) The federal test method for compressors that is incorporated by reference into the regulations (10 C.F.R. Part 431, Appendix A to Subpart T) itself incorporates by reference the ISO 1217:2009(E) test procedure. Under the California Administrative Procedure Act, it is not necessary for the Energy Commission to incorporate by reference documents that are incorporated by reference into the document that it is incorporating by reference. The ISO 1217:2009 test procedure is part of the test procedure in Title 20 as it is incorporated into the CFR. Therefore, a change is not necessary.

(2) Section 1603(a) requires testing of products within the scope of section 1601 using the applicable test procedure in section 1604, and further requires that the test laboratory conducting that test have conducted tests using the applicable test method within the previous 12 months (among other requirements). Under the adopted regulations, compressors are not currently considered to be in the scope of section 1601 (see Comment 18a), so no requirements need to be met for this equipment type. However, in the event that compressors become regulated due to the enactment of a federal standard, then testing must occur pursuant to section 1603(a) and the test procedures in section 1604. This is necessary to ensure that testing is robust and to ensure that appliances meet the applicable efficiency standards.

*John Randall
Sullair, LLC
7/10/2018
TN #224113*

Comment 19

In reference to California code of regulation docket No. 2018-AAER-10, we respectfully request that the California Energy Commission delay the adoption of this regulation until the Ninth Circuit Court of Appeals has ruled on the lower court’s decision of the Natural Resources Defense Council vs. Perry.

Sullair understands the California Energy Commission’s goal with the proposed regulation is to have consistency with the federal standard. However, there are variances between the federal standard and the proposed regulation which creates the potential for confusion in the industry pertaining to the test procedure and may potentially affect any efficiency standards implemented. Sullair, along with other compressor manufacturers as well as distributors and those involved in sales, installation and servicing of compressors are waiting for clarification from the DoE regarding test procedures to eliminate inconsistencies.

As currently proposed, differences between the federal standard and proposed CEC regulation include:

- Testing and procedural methods
- Recognition of prior test procedures (ISO1217)
- Alternative Efficiency Demonstration Methods (AEDM)
- Power range special compressor exemptions

Different procedures for testing between state and federal standards, and lacking an AEDM, will increase costs and burdens for the entire industry. Testing in-house, or by a certified third party, is estimated to increase expenses by more than \$2,000 per compressor model. Additionally, inconsistent standards between CEC and DoE increases the risk of inadvertent application of testing procedures for any given compressor for a given market.

Sullair is committed to improving the energy efficiency of our products and has worked tirelessly to meet that goal. We will continue to work collaboratively with the appropriate federal and state agencies in the United States to ensure unified standardization and implementation of regulations affecting our industry.

On behalf of the Sullair employees, regional sales, service and distributors in the State of California that will be affected, we ask that the CEC delay the adoption of the proposed Regulation until the Ninth Circuit Court of Appeals has provided a clear understanding of *Natural Resources Defense Council vs. Perry*. In doing so, it will allow the CEC to align the California regulation with the federal standard and be fully consistent with current federal regulations.

Energy Commission Response:

No changes are required. Please see Comments 13j and 18a-18f for the Energy Commission's responses on this topic.

Oral Comments Received During July 11, 2018 Adoption Hearing

*Kevin Messner
Association of Home Appliance Manufacturers (AHAM)
7/11/2018
TN #224303*

Comment 20a

Good morning, Commissioners. Kevin Messner with AHAM. I wanted to first say just thank you. These technical updates are really helpful. I've noticed our comments are fewer than they were last time, maybe someday we won't even submit comments on these technical corrections. That would be nice. The first issue -- I just wanted to raise two issues. One is on the battery chargers. This is not a substantive issue and staff has explained it well. There is another rulemaking that deals with the BC marking. This doesn't have that in it. I understand it, it makes sense. The only thing I would ask is maybe in the final Statement of Reasons you put the clarification that a BC mark is not

required on the federal battery chargers. I'm nervous that retailers and other might not be quite as -- in following all the multiple rulemakings that could happen, so when they see this one that shows the BC mark is on there and then the other rulemaking is lagging behind it, just a final Statement of Reason clarifying that might be helpful to avoid any confusion.

Energy Commission Response:

No change is required. Please see response to Comment 5b.

Comment 20b

The second issue is lights and LEDs. We need to figure out a way to deal with lights, LED lights. That they don't work well on high temperature situations, so we have range hoods. So people want lighting when they're cooking. And right now the path we're on is LEDs are going to have to be used and in a range hood that's not going to work. So there are just technical issues that we have to address that it's an issue right now. So we need to find a way through that. We wanted that to be done through these technical corrections. I realize the lighting standards, it's a big deal. But we have to figure out a way to exempt the high temperature situations or I'm not sure how this all flushes out. So really ask for an expedited help on that either through enforcement discretion, regulatory guidance, I don't know what can be done, because it's a problem right now today. So I appreciate any help on that. Thank you.

Energy Commission Response:

No change is required. Please see response to Comment 4.

*Laura Petrillo-Groh, PE
Air-Conditioning, Heating, & Refrigeration Institute (AHRI)
7/11/2018
TN #224303*

Comment 21a

First of all, we would like to commend staff on the way that this cleanup was handled. This is an incredibly complex set of regulations to go through and to update and to make applicable for California regulations. And we have been engaged in the entire process and very much appreciate all the outreach and communication that we've had with your staff. This was an excellent example of an including the public in the rulemaking process.

Energy Commission Response:

Thank you for your comment. No change is requested.

Comment 21b

I apologize for missing the first part of the presentation, but AHRI did have several last-minute comments to the 15-day language issue on June 25th. Most were editorial, having to do with our change in office and changing year for applicable test methods, such as for heat pump water heaters.

Energy Commission Response:

No changes are required. Please see responses to Comments 15b and 15d.

Comment 21c

And we hope that CEC will consider further clarifications to definitions, particularly for water heaters. We've pointed out several times that repetitive definitions could be unclear in interpreting the document. And we would request that additional language be added to make clear what the differences are between consumer and commercial products, so that it aligns more closely with federal regs.

Energy Commission Response:

No changes are required. Please see response to Comment 15c.

Comment 21d

And lastly, there is another water heater question that came up regarding smaller products, storage models less than 20 gallons. And at present, there's no federal regulation on this. And we made a recommendation to update Table F-3 to make more clear that there's no minimum for that product and that there cannot be translation between the UEF and EF Standards. So I hope maybe those got taken into account.

Energy Commission Response:

No change is required. Please see response to Comment 15f.

*Marian C. Hwang
Atlas Copco North America
7/11/2018
TN #224303*

Comment 22

Atlas Copco also thanks the Commission for this opportunity to present three major concerns. First, we respectfully urge the Commission to delete any requirements applicable to compressors from the proposed rules and to take a holistic approach for issuing any future compressor rules, but only after the status of all federal standards are clarified and finalized.

Second, the prior view that this proposed rule contains a temporary exception for compressors and does not require immediate testing, is not legally supported by the proposed rule.

And third, under this rule given the lack of any efficiency standard at both the federal or state level, a compressor manufacturer's failure to comply with the federal test method within 12 months, still leaves the compressor manufacturers vulnerable to third-party consumer actions, unfair trade practice claims and possible other citizen claims.

Now in support of this view that compressors are currently accepted, the Commission relies on 1602 and its definition of what a federally regulated commercial and industrial equipment is, which is defined as equipment for which there is a state test and an energy conservation standard prescribed by four expressly cited federal energy laws.

The major flaw with this conclusion and the definition, is that the compressor testing and efficiency standards are not covered under any of these cited federal laws, but are rather covered under the Energy Policy and Conservation Act of 1975, which is not cited in this definition. And thus the Commission's reliance on this definition will not support, will not legally support the exceptions from the testing of compressors, under your rules.

And most importantly, Section 1603(a) expressly provides that compressors within the scope of the rule must be tested within 12 months of the effective date, using the prescribed federal test. For Atlas Copco, such testing would involve hundreds of models. And given the number of compressor models that are individualized to meet specific customer needs, compressor manufacturers will be unable to meet the 12 month deadline if all models must be tested.

Third, the failure of the proposed rules to include the use of alternative efficiency demonstration methods, in lieu of testing, as otherwise allowed under the Federal Regulation of 10 C.F.R. Section 429.63(a)(2) will also have a substantial adverse effect on the industry. If AEDM is not included the compressor manufacturers will not be able to meet the 12-month deadline.

Thus in summary, the amendments in our view did not provide accurate federal requirements, did not provide clarity or certainty for the manufacturers of compressors, does not reduce manufacturer burdens and costs, but rather will result in significant burden and costs to manufacturers for compressors, as well as result in potential adverse effects to California consumers who's access to compressors could be limited.

Energy Commission Response:

No changes are required. Please see Comments 13a-13j for the Energy Commission's detailed responses on this topic.
