### Response to Written Comments

<table>
<thead>
<tr>
<th>Document ID</th>
<th>Title or Description</th>
<th>Page</th>
<th>Summary of the Comment</th>
<th>The Commissioner's Response to the Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>G5-DAW</td>
<td>G4086</td>
<td>14A.3</td>
<td>The Commission discouraged the use of non-powered flow hood devices for measuring residential central space conditioning system air-handling unit airflow, to determine compliance under proposed updates to the Building Energy Efficiency Standards.</td>
<td>N/A</td>
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<tr>
<td>G5-DAW</td>
<td>G4070</td>
<td>150</td>
<td>Specific reference to outside application of protection and elimination of acceptable products. Also included additional adhesive tape should not be permitted in insulation.</td>
<td>Reference to outside condition was accepted, but reference to the products that could be used was not accepted as there were restrictions to be excluded of other materials or otherwise suitable. Reference to Class 1 or Class 2 tapes was included. Categorical exception to the use of adhesive tapes was not included as the manner of application of the protective system makes a difference as well as the type of adhesive tape. Clarity of language will be included in the comments manual.</td>
</tr>
<tr>
<td>G5-DAW</td>
<td>G4087</td>
<td>141(b)</td>
<td>The Prescriptive insulation tradeoff is good but does not allow the rooftop to put insulation below the deck. Can we have an insulation value which can be for insulation above the deck...</td>
<td>Yes (See previous comment and response, immediately above). (2) The adopted standards contain an U-factor trade-off between insulation and solar reflectance for roof assemblies. By using a U-factor for the assembly, the building designer can use the insulation above or below the roof deck as long as the assemblies meet the applicable U-factor.</td>
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<tr>
<td>G5-DAW</td>
<td>G4138</td>
<td>na</td>
<td>Various comments on compliance software output requirements, AECM Reference Manual, and final document format and content.</td>
<td>This Comment did not address the proposed standards, but rather only yet-to-be-proposed compliance software and AECM Reference Manual. They are noted and will be addressed when the AECM Reference Manual is completed.</td>
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<tr>
<td>G5-DAW</td>
<td>G4140</td>
<td>140.3</td>
<td>The AEC should not change the UIC aged solar reflectance because the cost justification is flawed: (1) the baseline costs are based on a 2002 Lawrence Berkeley National Lab report that does not reflect the real world costs of roofing materials and that does not reflect premium for &quot;cool&quot; versions of existing roofing materials. (2) the AEC analysis has too small a response pool to draw a conclusion; (3) the AEC analysis has too few data points to show a range of cost variability and therefore lacks statistical significance. (4) the labor costs are questionable, and (5) it is not clear that the survey respondents based their feedback on the UIC target.</td>
<td>No, (4) is not clear that the respondents based their feedback on the UIC target. The Commission disagrees with the commenter: (1) The baseline cost data and AEC cost analysis are sufficient to support a more stringent aged solar reflectance standard as cost-effective. In contrast, lowering the aged solar reflectance standard would reduce the energy savings projected to result from the nonresidential building standards, and therefore be a less economic alternative to the adopted standards. In response to the specific issues that the comment raises: (1) The Commission did not use the 2002 report prepared by the Lawrence Berkeley National Laboratory to support the baseline for the proposed standards. Rather, the Commission used the 2008 Building Standards, which set a 0.55 aged solar reflectance requirement, as the baseline for measuring incremental costs for the 2013 Building Standards. Architectural Energy Corporation, Methodology for Determining the Statewide Impact of Title 24-2013 Nonresidential Standards (Jan. 17, 2012) p. 1.) This is in accordance with established principles that the energy savings and costs of a proposed regulation be determined with respect to currently applicable requirements and practices. This is accordingly also consistent with the Commission's past practice of using the previous standards as the baseline for the proposed standards. The commenter appears to argue that the 2002 Lawrence Berkeley National Laboratory Report does not support the cool roof standard as it was originally adopted for the 2005 Building Standards. However, the commenter has not provided any evidence to support its contention that the 2002 Report's costs were flawed, and the time to challenge the 2005 or 2008 cool roof standards has long passed. Further, when the Commission offered to use the standards as they existed before a cool roof standard was implemented as the baseline, the commenter declined. (See March 12, 2012, Transcript p. 141.) (2) From the report done by the Architectural Energy Corp (AEC), called, &quot;Non-residental Cool Roof Cost Summary,&quot; (Document 041200), the general makeup of the survey questions were developed in consultation with representatives of the roofing industry. The size dynamics of the roof were identical to that used by the Asphalt Roofing manufacturers Association (ARMA) in its survey to the roofing industry for the 2008 Energy Standards development activity. From the 70 contractors surveyed by e-mail 3 responded. Also AEC conducted a phone survey and 9 contractors responded from different regions of the state. The contractors were obtained from the National Roof Contractors Association online database which specifies a metropolitan area (such as San Francisco). Also, information was gathered from 11 distributors throughout the state. The costs from the distributors include a 5% contractor mark-up. (3) The AEC analysis contained responses from a representative sample of roofing contractors. The Commission has also provided a more detailed response to criticisms of the AEC cost analysis made by Gonzalez, Keilhorn in its response to comment 89 (Document No. 6079), and incorporates that response here.</td>
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<tr>
<td>G5-DAW</td>
<td>G4140</td>
<td>1410(U)</td>
<td>To prevent confusion in the market, the CCC should keep the aged solar reflectance for new and altered roof the same.</td>
<td>Yes (Even though a 0.65 aged solar reflectance proved to be cost effective, the Commission did change the originally proposed standards in 15-day language from a 0.65 aged solar reflectance standards for new roofs to 0.60 aged solar reflectance standard to prevent confusion between the requirements for new roofs and alterations. (See Payne Boghazian, Commission Staff Comment (Apr. 2, 2012), at p. 1, number 2.) The Commission also extended the U-factor tradeoff between insulation and aged solar reflectance from alterations only to both new roofs and alterations. (See id., at p. 1, number 5.) Both changes increases the availability of roofing products to meet the standards and add flexibility by how roof contractors meet the standards.</td>
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The CECS's standards should be designed to achieve overall "energy savings" rather than "peak savings," because "peak energy reduction" benefits mainly energy companies and a small segment of consumers.

The energy savings for Title 24 building standards, including the roof reflectance standards for nonresidential low-sloped roofs, are derived based on: annual Time Dependent Variation (TDV) energy savings, which are derived by applying hourly multipliers (which depend on the hour of the day and season of the year), and account for the energy use generated, transmitted and distribute electricity and the energy used directly (i.e., fuel gas) to the expected natural gas and electricity savings for the year, then summing these TDV energy values for all hours of the year. (California Energy Commission, Initial Study/Proposed Negative Declaration for the 2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Mar. 2012); Pub. No. CEC-2012-0102, at p. 12 [see also Energy and Environmental Economics, Inc., Time Dependent Variation of Energy for Developing Building Efficiency Standards, at p. 3, prepared for the California Energy Commission (Dec. 2011), available at http://www.energy.gov/t24/2012standards/presentations/documents/general_cx_documents/t2412_2012_TDV_Methodology_Report_2012Dec2012.pdf (referred to as "CECS Report" or "Nonresidential Cool Roof" (Oct. 2011)]. This concept corrects TDV that energy efficiency measure savings should be calculated differently depending on which hours of the year the savings occur, to better reflect the actual costs of energy to consumers, to the utility, and to society. The TDV method encourages building designers to design buildings that perform better during periods of high energy cost. Moreover, targeting peak energy use results in greater benefits to air quality, as "peak energy use relies heavily on generation from less efficient power plants, and peak periods coincide with, or occur before, air pollution episodes at worst, when air pollution is at its worst. (California Energy Commission, Initial Study/ Proposed Negative Declaration for the 2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings (Mar. 2012); Pub. No. CEC-2012-0102, at p. 10.) The Commission originally presented the TDV calculations at the November 16, 2010 public workshops, and did not receive feedback to suggest it was an inappropriate measure of energy savings from nonresidential cool roof. Therefore, the Commission appropriately relied on an energy savings basis that TDV more accurately reflects the actual costs of energy.

(A) The Commission disagrees with the commenter. The baseline cost data and consultant cost analyses are sufficient to support even more stringent aged solar reflectance standard as cost-effective. See Case No. Report, Nonresidential Cool Roof (Oct. 2011), at p. 23-25 (showing cost-effectiveness for a 0.67 standard); Architectural Energy Corporation, Draft Non-Residential Cool Roof Cost Summary (Feb. 2012), at p. 3 (showing cost-effectiveness for a 0.6 standard). The Commission has specifically responded to Comment (A)(4)(d) and (A)(6) in its response to Comment (Docket No. 64148), numbers (1) and (3), and incorporates these responses here.

(B) As explained in Response to Comment (Docket No. 64148), the Commission changed the roof reflectance standard for new roofs to 0.63 to match the standard for alternation in response to those concerns. (C) Insulation in the baseline for new and existing buildings and are expressly in the adopted regulations. Because of the difficulty in describing where insulation is to be installed and the specific amount based on roof assembly type, the tables are developed by specifying maximum U-factors. The Overall Envelope Approach was withdrawn from the Standards. It will be described in the Nonresidential Alternative Calculation Method (ACM) reference manual, which will be approved by the Energy Commission at a later time, pursuant to Public Resource Code Section 54412.1. This manual provides guidance on alternative, optional methods for demonstrating compliance with the standards. (See Pauw-Boschman, Commission Staff Comment (Apr. 2013), at p. 1, number 2, “Standards.”) The Commission’s records are based on the insulating combinations of measures which must be both cost effective and result in energy savings. The thermal dynamic properties of insulation and cool roof materials differ. Insulation provides thermal resistance whereas a cool roof reflects radiant energy. The energy efficiency significance of a cool roof goes beyond just energy savings of the building in which it is installed. It also affects the heat of the urban environment, although those effects are not quantified in this analysis or related up to the adopted savings. The cost-effectiveness analysis and energy savings are based on the Case No. Report, Nonresidential Cool Roof (Dec. 2011), and an Architectural Energy Corporation’s Draft Non-Residential Cool Roof Consolidated Cost Summary (Feb. 2012) and Cost Effectiveness (May 2011). These documents relied upon demonstrate that the energy savings from a 0.55 to 0.70 and 0.65 roof reflectance standard has a cost effectiveness of $5/GJ(41) and 53/GJ(41) and a state wide energy savings of approximately 47 gigawatt hours (GWh). (Case No. Report, Nonresidential Cool Roof (Dec. 2011), at p. 2. 2.) Further, the changes are needed to move California toward its goal of net zero energy buildings. (See California Public Utilities Commission, California Energy Efficiency Long-Term Strategic Plan, at p. 8 (2008), available at http://www.cpc.ca.gov/TKr2/d232642d-2008-4BFF-9F62-0BBA34466717/roofsplan.pdf.)

(C) The Commissioner's responses to RMAN's arguments regarding the cost justification and different values for new and altered roofs are included in Response to Comments 6a and 6b.

(D) The commenter is mistaken on this point. The time-dependent valuation (TDV) methodology did include the costs and generation impacts of renewable energy generation based on California's Renewable Portfolio Standard (requiring 33% renewables by 2020) as well as other state policies, such as Assembly Bill 82 (Global Warming Solutions Act of 2006) (requiring a reduction in greenhouse gas emissions to 1990 levels by 2020). (Energy and Environmental Economics, Inc., Time Dependent Valuation of Energy for Developing Building Efficiency Standards, at p. 7, prepared for the California Energy Commission (Feb. 2011), available at http://www.energy.gov/t24/2012standards/presentations/documents/general_cx_documents/TNC2012_TDVMethology_Report_544122922.pdf.) Therefore, the Commission did not use the TDV models as they are already accounted for the impact of renewable energy generation.

(E) The Commission undertakes many activities to increase compliance with the building energy standards: (1) Developing compliance manuals; (2) Providing an Energy Commission Hotline, where staff assist local jurisdictions; (3) Providing non-mandatory training for local jurisdictions; (4) Providing an online learning center, which offers information for local jurisdictions on understanding the Energy Code and increased compliance; (5) Supporting utilities in providing training to local jurisdictions and the public in enforcement and implementation of the Energy Standards; (6) Preparing and providing training on new energy efficiency regulations; and (7) Building the California Energy Commission’s (CEC) chapter training to provide formal education and training on key building standards topics. The commenter has not provided data or information to demonstrate that further increasing compliance efforts will result in any energy savings, nor has the commenter suggested any ways to increase compliance beyond the activities the Commission already undertakes. In contrast, the Commission has found the adopted standards to be cost-effective and result in energy savings, as well as necessary to move California toward a net zero buildings goal. Therefore, no change is appropriate in response to this comment.

Yes. Definitions were revised to accommodate majority of the suggested changes. Reference documents were updated and reflect the most recent model standards and supporting documents, including ASHRAE 90.1, and CASE reports. Mandated minimum testing levels are updated to the consensus standard accepted by ASHRAE 90.1 2010-10-08.

No. Yes.

The solicited requirement would cause significant disruption in the market place by having uncertified products or materials sold to contractors - proper long term testing, with a high risk of their serious flaws.

The CECS should allow insulation tradeoffs to apply to both new roofs and alterations, for the same reasons that an aged solar reflectance standard should be implemented.

Yes.

The energy-commission depends on the Cool-Roof-Rating-System database of certified products for the solar reflectance and thermal emittance properties of a roof top, which helps ensure energy. Regarding ensuring that "untainted" products are of sufficient quality, the Commission relies on the ASTM standards and no assurance set by the manufacturer for different years of service depending on the product. The comment does not provide any data to support the assertion that uncertified products will be enter the market or cause market disruption. The existing industry stakeholders will continue to protect the industry. Therefore, no changes are necessary or proposed.

(C) The Commission has made this change in 21-day language by applying the insulation tradeoff tables for solar reflectance to both new and existing buildings. Because of the difficulty in describing where insulation is to be installed and the specific amount based on roof assembly type, the tables were changed to specify maximum U-factors. (See Pauw-Boschman, Commission Staff Comment (Apr. 2013), at p. 1, number 3.) The Commission further reevaluated the table through an Error analysis with the 2013 Building Standards to correct anomalies. (See Comment Letter From Associated Roofing Contractors of the Big Hype (Docket No. 64617, Comment No. 112a (May 20, 2012)).
Response to Written Comments

45-AS 4A15
Baltimore Aircoil Company
Response to the 2013 Revisions to the California Building Energy Efficiency Standards 2013-03-16 Th 64416.pdf

120.6 The efficiency levels specified for evaporative coolers are cost-effective and cannot be directly compared to the efficiency requirements for air-cooled condensers. These two types of condensers function differently and use a different criteria to determine the specific efficiency, and thus require different cost-effective analyses to determine the appropriate requirements. The commenter also notes a number of high-specific efficiency for evaporative coolers in this code cycle. The result would likely reduce the expected energy savings from the standards. This is further explained in greater detail in the document at second. (see Doug Scott Responses to Excerpt of March RMM letters 12G.12 for detailed response).

45-AS 4A21
WWAC Inc Comment 2012-03-16 Th 64431.pdf

120.6 The efficiency levels specified for evaporative condensers are cost-effective and cannot be directly compared to the efficiency requirements for air-cooled condensers. This is explained in greater detail in a document relied on. (See Doug Scott Responses to Excerpt of March RMM letters 12G.12 for detailed response).

45-AS 4A22
Howard-Aiken Comment Letter 2012-03-20 Th 64432.pdf

150 Can provide an exception to Section 110.18(B)(3) allowing a reduced solar view area when it can be demonstrated that the provided need for solar is less than the minimum requirement for the solar zone or the home meets Title 24, Part 11, TEC requirements and attains zero energy performance through other renewable energy technology. No Reference to outside condition was accepted, definition of the products that could be used was not accepted as there are not intended to be exclusion of other materials or other possible references. Reference to Class I or Class II vapor was included. Categorical exception to the use of adhesive tapes was not included as the manner of application of the protective system makes a difference as well as the type of adhesive tape. Clarifying language will be included in the compliance manual.

45-AS 4A23
Avery-Kister of Energousol Energy Solutions Comment Letter 2012-03-19 Th 64433.pdf

110.30 Can provide an exception to Section 110.18(B)(3) for homes served through Community Scale Renewable Energy Facilities.

45-AS 4A24
Nyle Butt comments 2012-03-22 Th 64427.pdf

Credit supporting the standard

45-AS 4A17
Spray Polyurethane Foam Manufacturers Comments 2012-03-09 Th 64417.pdf

RA3.5.1 TERMOLOGY "Wall & Att. Spaces" The base sentence in this section is confusing: "loads occur when insulation depth is too shallow to provide the expected R-value for the insulation to maintain contact with the assembly's air barrier." We recommend deleting this sentence. Yes The Commission agrees with comment and the regulations have been changed accordingly.

RA3.5.10a.1 Update missed words.

RA3.5.10b.1 Update missed words.

RA3.5.4.5a Suggestion to delete reference to HRMs check for SPF in unventilated attics. Yes The Commission agrees and has made this suggested change.

RA3.5.4.5b Suggestion to include reference to RA2 for all insulation systems. Yes The Commission has made changes to be consistent throughout RA3.5.4 and the numberings have been removed.

RA3.5.4.5c Suggestion to delete word "vulcanized". Yes The Commission agrees and has made this suggested change.

Suggestion to include SPF as a specified insulation type for steel framing. No The Energy Commission agrees with the intent of these comments, but the standards are to have parity across all insulation materials; hence, references to specific insulation materials with steel framing have been removed.

Suggestion to number sub-sections in consecutive order. No The commission agrees and the numbering sequence for all sections throughout the document have been renumbered.

Suggestion to delete building officials allowance for SPF to be used under relief of the roofs. No The Commission agrees and reference to it has been removed.

Suggestion to record language referring to SPF in unvented and unattic per the CMC requirements. Yes The Commission agrees and has revised this section to better conform to CMC language.

Table 150.1a Suggestion to include additional insulation combinations to required prescriptive-R factor and value table. Yes The Commission has included insulation value of R15+ and reference to u-factor ensure that any combination of insulation inside and outside the framed assembly are allowed to be used to meet the requirement.

120.7 Section 140 (3a)With respect to prescriptive requirements for building envelopes, the method is not specified for deriving visible transmittance (VT) when placing is not National Fenestration Rating Council (NFRC) certified.

Section 140 (3a)(2) The derivation of formulas of "opaque transmittance" was moved to the Nondimensional Reference Appendix NAA where it belongs not to derivation of the U-factor and SRG when fenestration products are not certified by NFRC: "VT shall be calculated according to Reference Non-dimentional Appendix NAA.

The Energy Commission has not changed the Prescriptive envelope factors for nondimensional and high rise residential buildings, Table 140.3-B and C respectively. Differences in required envelope factors are the result of analyses appropriately using different prototype building shapes and occupancy conditions.

Spray Polyurethane Foam Manufacturers Comments 2012-03-09 Th 64417.pdf

140.3(b) ORIENTATION REQUIREMENTS The use of "or" at the end of 140.3 (b)11.1 could be taken to mean that the 55% requirement cannot be met by combining Sidell and Skylight areas.

140.3(c) FIRE PROOFING REQUIREMENTS For doors "or" at the end of 140.3(c)20 to clarify that the requirement can be met by combining "or more" of Sidell and Skylight areas, as the commenter proposed.

Fiber Energy Design Comments Building Energy Efficiency Standards 2012-03-20Th 64418.pdf

140.3(b) ORIENTATION REQUIREMENTS For the total solid depth area definition and Skylight depth area definition are accomplished. The proposition mentions only Solidi depth, not width.

140.3(c) FIRE PROOFING REQUIREMENTS For indoor lighting-Ornamental Lighting The proposed Standards do not state how to calculate the total area of an ornamental light fixture. Proposed allowing "ornamental" surfaces to be used without counting their watts toward the Area,Categoria maximum lighting-power allowance.

The square footage of the floor area shall not include floor areas not having ornamental/special effects lighting.
Response to Written Comments

45-AV G4562 150-03 2.6 In the proposed (and adopted) Standards, EXCEPTION 1 to Section 150.03(7) states that luminaires: in classrooms less than 70 square feet are not required to be high efficiency or to be controlled by dimmers or vacancy sensors. The commenter recommended including requirements for such controls, in addition to timer switches, for these small rooms.

NO Neither the comment nor anything else in the record established that it is cost-effective to require such controls in classrooms smaller than 70 square feet.

45-AV G4571 2012-04 12_Fayoum_Bozorgchami_TH_64571.pdf 140.3 E The Energy Commission staff is in response to concerns raised by the roofing industry on the roof deck insulation proposal.

N/A This is an Energy Commission staff document dicussed in this proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-AV G4577 190.1 This commenter asserts that the building industry does not have sufficient time to determine how to comply with the proposed standards before the implementation date of 1/1/2014. Training and better understanding is needed by the building community prior to requiring these proposed standards.

Yes The Energy Commission agrees and the prescriptive requirement for roof deck insulation has been removed.

45-AV G4577 California Building Industry Association Comments 2012-04-28 TH-64577 140.0(4) Comment that the roof deck insulation requirement in the proposed Standards is not cost effective and could result in moisture concerns.

Yes The commenter withdraws some of the proposed requirements to drop the need of categories to below 250 sf. ABA requested providing roof deck insulation requirements, the standard as adopted also provide additional insulation credit in some climate zones to lower the estimated compliance cost to address the CBIA's concerns.

45-AV G4577 110.10(3) Buildings utilizing whole house fans may not be able to meet the requirement that roothes have a 250 square foot solar ready area, because additional attic and roof vents will be needed to accommodate the whole house fans.

Yes The proposed length limit for 1 inch pipe was withdrawn.

45-AV G4585 Day_5_from_Stanford_1_Slagge_TH_64656.pdf 140.0(9)3 Note: the number of the commenter upon section was changed to 140.0(9)3 in the 15-Day Language and excluding the term "single lamp and/or bulb replacement" from the definition of "luminaire modification in place," because the additional expertise, labor, and material cost, and time needed to do those things would have the unintended consequence of discouraging group remodelling projects.

Yes/No The record establishes that the requirements are cost effective. However, so that both lamps and ballasts need to be replaced in order to be classified as a luminaire modification in-place. There is no evidence that this revised language will discourage group remodel projects.

45-AV G4586 National Electrical Manufacturers Association Comments 2012-04-28 GTN-64568 110.0(9)3 The commenter recommends adding requirements for Partial- and Partial-Occupancy sensors consistent with language in the Title 20 Appliance Efficiency Regulations, and consistent with the lighting control requirements in Section 130.1.

Yes The commenter has made the language consistent with the NEA. The language has been modified as recommended.

45-AV G4586 100.1(2) More flexibility in solutions to meet the lighting requirements for lighting on outdoor mounted at 24 feet as less.

Yes Working with the commenter and other stakeholders, the Commission modified the language in Section 102-2(9) to provide for additional flexibility, in a manner that was satisfactory to the commenter and to all other stakeholders on this issue as recommended.

45-AV G4586 859.6 The commenters recommended that Table 500-2A be modified to remove restrictions on contact fluorescent lamps in G-20 based recessed downlight fixtures, by deleting the words, "which are not recessed luminaire." The commenter was the primary advocate in the previous proceeding that adopted the current restrictions, which recommended that compact fluorescent lamps be allowed in G-24C based recessed downlight fixtures, because of concern about premature heat failures. Based on this comment on luminaire manufacturers that premature heat failure is no longer a risk, the restrictions were removed.

Yes The commenter's input was taken into account, and the language was removed. The language was reworded to specify that the installation and control set-up process should consider inputs from both fluorescent and make-up air streams to balance the air pressure between zones to avoid instabilities.

45-AV G4603 J_Crogan_for_Siemens_Comments_2012-04-05_TH_64602.pdf 140.4(8) The comment suggests that the regulation should state that "variable exhaust and makeup airflows shall be coordinated to achieve the required space pressurization at varied levels of demand and fan system capacity." Fans pressure imbalances may occur unless the exhaust and make-up air streams are balanced at several flow levels, up to full fan capacity.

Yes As suggested by the commenter, zone air pressure imbalances may occur at some flow levels. The language was revised to specify that the installation and control set-up process should consider inputs from both exhaust and makeup air streams to balance the air pressure between zones to avoid instabilities.

45-AV G4611 CAL_SMACA_Comments_re_Title_24_Data_Registry_TH_64611.pdf 10-102 The commenter recommended removing Home Energy Rating System (HERS) providers from the definition of Nonresidential Data Registry. The commenter's opinion was that the standard language would require providers for all "nonresidential buildings" to be submitted to HERS Provider. The commenter believes the use of the HERS providers (who are certified for residential ratings systems) in nonresidential buildings would create ambiguity.

Yes The Commission accepted the recommended change.

45-AV G4611 10-103(1)(a) The commenter recommended removing HERS providers from the requirements for Nonresidential Data Registry, or the provision described in the response to Comment 79(b), immediately above.

Yes The Commission accepted the recommended change.

45-AV G4612 CAL_SMACA_Comments_re_Title_24_Data_Registry_TH_64612.pdf 10-102.1 The comment is a duplicate of comment identified as 64611.

Yes The Commission responds as it did to Comment 64611.

45-AV G4622 Max Suggested Language to change Exception 2 to Section 150.03(1A) and Exception 2 to Section 150.03(1A) regarding daylighting area limitations from 10% to 8% of.

Yes Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

45-AV G4622 Exception 2 to Section 150.03(1A)

Yes Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

45-AV G4622 Exception 2 to Section 150.03(1A)

NO Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

45-AV G4622 VELUX America Inc Comments 2012-04-06_TH_64622.pdf Exception 2 to Section 150.03(1A) up to 16 square feet of daylight area with a maximum U-factor of 0.55 and a maximum SHGC of 0.39 are permitted to be used in any area.

NO Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

45-AV G4622 Exception 2 to Section 150.03(1A)

NO Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

45-AV G4622 Exception 2 to Section 150.03(1A)

YES Viola suggestion was to increase the area from 10% to 16% for a more common and realistic daylight use. Changes were made to reflect suggested language.

Page 5 of 18
The commenter claimed the requirement for certification to the Energy Commission, in order for low leakage air handling units ("LHAU") to qualify for compliance credits available in the performance standards set forth in sections 150.1(b) and 140.1, was a new requirement that had not been publicly vetted. No

The commenter proposed clarification of 150.2(f) to explicitly state that the qualifications for Low leakage Air handling units (LHAUs) are used for the compliance credit available in the performance compliance method. Yes

The commenter claimed that a 3% Navier-Stokes leakage rate qualification criteria given in Reference Joint Appendix J-9 was two stringent and should be changed to 2%. No

The provisions under HVAC systems should be allowed No

The commenter objected to the inclusion of 50% indoor units under section 150.4(c)(2) for variable air volume systems and under section 120.6(j) for constant volume systems claiming that this 10% limit is too stringent for field certification. No

The commenter stated that section 440.45(j) for air ducts being overly limits damper linkage, instead of ensuring adequate linkage operation in various conditions. Yes

The commenter seeks clarification of the terms and applicability of trained contract professionals. Yes

The commenter proposed, for ventilation systems: (1) an exemption for ductless systems, (2) ventilation minimum unit capacity revised, and, to apply by capacity; and (3) change requirement to 5% manufacturers' warranty on economizer assembly. Yes

Although the regulation language in 150.2(f)(10) page 253 in 45-day language specifies labeling is the responsibility of the manufacturer, HVAC is requesting confirmation that under no circumstances will the contractor be held responsible for labeling [air filter products]. No

Oppose prescriptive requirement for whole house fans No

Oppose prescriptive requirement for whole house fans No

The institute seeks to exempt from the requirement for dynamic control of outside air flows in retrofit applications. No

The original language was based on the public stakeholder process for the ACE study 2013 CAS/E Design Phase 1a.pdf. This revision to the 15-day language now allows contractor as well as Design Engine at the same level of responsibility established by the CBEC Business and Professional Code. Added this to 15 Day Language: "Contractors accepting the responsibilities of the engineer under the provisions of the Business and Professional Code may also complete and sign these certificates." Yes

Ductless systems should be exempt from the requirement for dynamic control of outside air flows in retrofit applications. No

The requirement is for systems, not specific equipment types. All systems, regardless of type, need to provide adequate outdoor air ventilation rates and, by this new requirement, do so with dynamic controls. No

Only a single economizer manufacturer satisfies this requirement No

The economizer IDF requirements for HVAC equipment 5 tons or greater, but the other economizer requirements are for HVAC requirements 4 tons or less - contractor thinks the Standards should be consistent in terms of HVAC equipment size No

The economizer IDF requirements are for HVAC equipment 5 tons or greater, whereas the other economizer requirements are cost-effective for HVAC equipment 4 tons or greater No

A manufacturer's warranty wordage is vague and does not specify that if it is a manufacturer's warranty that is required Yes

The Commenter language clarified that the warranty is a manufacturer's warranty. Yes

The requirement is for systems, not specific equipment types. All systems, regardless of type, need to provide adequate outdoor air ventilation rates and, by this new requirement, do so with dynamic controls. No

The requirement is for systems, not specific equipment types. All systems, regardless of type, need to provide adequate outdoor air ventilation rates and, by this new requirement, do so with dynamic controls. No

Only a single economizer manufacturer satisfies this requirement No

The new economizer IDF requirements are only cost-effective for HVAC equipment 5 tons or greater, whereas the other economizer requirements are cost-effective for HVAC equipment 4 tons or greater No

Warranty language in vague and does not specify that if it is a manufacturer's warranty that is required No

5 Day Language clarified that the warranty is a manufacturer's warranty. Yes

No bypass ducts is now the prescriptive requirement but not a mandatory requirement No

The requirement is for systems, not specific equipment types. All systems, regardless of type, need to provide adequate outdoor air ventilation rates and, by this new requirement, do so with dynamic controls. No

No bypass ducts is now the prescriptive requirement but not a mandatory requirement No

The minimum horsepower (hp) for the application of the code to alterations of existing system to be 75 hp, and the minimum applicable hp for new system to remain at 25 hp. No

We did not change the compressed air system threshold from 25 hp to 75 hp - the proposed requirements have been shown to be cost-effective for systems as small as 25 hp. We accept the recommendation to provide two options to meet this requirement. We added an exception to these requirements for existing central compressors. We did not accept the recommendation to exempt remote compressors but we did add an exception for existing compressed air systems that are replacing less than 50% of the installed capacity. We also added an exception for compressed air systems that can demonstrate that they operate at 100% of capacity. We accepted the suggestions to make minor changes to the definitions and acceptance tests requirements for compressed air systems. No

Yes

Yes

Yes

Yes

Yes

Yes
Response to Written Comments

1206 / MAX-101/NAY

Exemption should be provided for a remotely located compressor system. Yes

The Commission found no technical or economic reasons to exempt remote compressor system.

1206 / MAX-101/NAY

Exemption from trim requirements should be provided for compressor running at constant air demand. Yes

Commission added an exception for existing compressed air systems that are replacing less than 50% of the installed capacity. We also added an exception for compressed air systems that can demonstrate that they operate at 50% of capacity.

1206 / MAX-101/NAY

Calculation of a factor of 1.5 to determine the uprating for simplification of compliance demonstration. Yes

Commission agreed.

1206 / MAX-101/NAY

Commenter suggests minor changes to the definitions and acceptance test. Yes

No comments were accepted and the minor changes were made to the definitions and acceptance test requirements for compressed air systems.

1206A / Distributed Energy Consumer

Advocates Comments 2012-04-11 Th 64685.pdf

110.10 The commenter suggested that the standards should require installation of solar ready mounting hardware before roof installation, claiming that such a requirement would reduce future costs of installing color thermal and materials systems. No

Installation of mounting hardware was not explicitly considered for inclusion in the solar ready requirements. However, it is predictable that the cost effectiveness requirements would not be met for mounting hardware because they were not met for pre-installed conduit, which has a lower cost than that of mounting hardware.

1207.7, 140.3, 150.1, 155.1 NASA supports the increased duct and pipe insulation levels but also recommends updating the duct insulation requirements to be in line with current best practices, as our requirement would otherwise allow for the use of an inefficient, supply stacker, and save more energy. An R-8 requirement is also consistent with the International Energy Conservation Code. Yes

The Energy Commission agrees that a slight R-value requirement is simpler for enforcement and can help the product supply community but does not support increasing the R-value for residential duct insulation across all climate zones as in this was not found to be cost effective in all cases.

110-114 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” Lighting Zones. Exterior lighting allowances in California vary by lighting Zones. (L2) Lighting Zones can be determined adding the U.S. 2005 Census Map. Comments: We often find that people have questions regarding how to determine a lighting zone for a specific project and do not know where to look. We recommend including a directory, similar to the above, to better direct parties to where they can find this information. As this information is touched on in Table 10-114-A, perhaps a more definitive map could be provided within the language.

No

There are already detailed recommendatons in the Nonresidential Compliance Manual, in the outdoor lighting chapter. Standards are not the appropriate place to include details.

100.1 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” The word “SCONCE” should not be all capitalized to be consistent with formatting conventions.

Language has been corrected as recommended.

100.1 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” This document recommends moving the definition of "Landscape Lighting" to the sub-group identified as "LIGHTING definitions".

Language has been corrected as recommended.

1206A Comments in Reference to LEED 2012-2013-04-05 Th 64688.pdf

110.90 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” Ballast/motor units have made great strides in developing long/bulb systems that achieve the same light output as previous 1.09 BF ballasts using a 0.71 BF ballast. We are concerned that requiring a 0.90 BF exterminates the ability for us to achieve more energy savings utilizing this low ballast factor ballast.

No

The comment is outside the scope of the rulemaking (and therefore irrelevant) because the provision exists in the current standards and was not proposed to be changed in the 2013 Standards. Moreover, the provision applies only to ballasts in specific residential applications. The comments express concern for an issue that would apply only to nonresidential applications in that low ballast factor ballasts are not installed in residential applications.

130.0 Note: this document has been mistitled in the docket as “LED.” Language incorrectly cited. The wattage of the lamp/ballast combination determined in accordance with Section 130.0(GA) - This language reference portion of the code that does not exist “130.0 (GA).” “We believe it is supposed to direct someone to compliance with Section “130.0 (GA).” Yes

Language has been corrected as recommended.

130.0 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” Commenter is confused that revised language for labeling of luminaires when such labels are used to establish luminaire input power is inadvertently stated in several subsections of the standards.

The entire subsection has been edited and the redundancy to other sections.

130.0 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” Commenter is confused that existing language regarding the use of wattage restriction labels is a valuable tool for designers and maintenance staff. The commenter further states that when a permanent wattage restriction label is not present, then accounting for the average of all lamp and ballast combinations is an appropriate method to determine luminaire wattage, and the amending method of accounting should not be removed as proposed.

No

The language has been modified to replace the averaging method to determine luminaire wattage with new post-dec liver labeling requirements, in consultation with the National Electrical Manufacturers Association.

130.0 Note: this document has been mistitled in the docket as “LED.” It should have been called “MAD.” It is not clear where the standard deals with lighting allowances in various areas. As written, the proposed standard (in footnote 1) provides an additional allowance for specialist work. We recommend also adding footnote #1, which provides an additional allowance for ornamental lighting, to footnote 2. Ornamental lighting is a prominent and an important feature within any lobby space but without additional an allowance it will be unduly restricted.

Yes

Language has been changed as recommended.
Response to Written Comments

Docket No. 64680
Dakota Comments Regarding Overendurable Communicating Thermostats 2012-06-11Tn-64680.pdf

110.1.(e)

Thermostats are not limited to on-off devices. Moreover, there will be a discussion of thermostat functionality in the residential and nonresidential compliance requirements.

Thermostats are not limited to on-off devices. Moreover, there will be a discussion of thermostat functionality in the residential and nonresidential compliance requirements.

Docket No. 64681
Galveston Insulation Manufacturers Association Comments Letter 2012-06-07Thn-64681.pdf

Table 150.1

The commenter proposed revisions to table 150.1A that increases the prescriptive requirement for wall cavity wall insulation from R11 to R15 in California Climate Zones (CCZ) 2-10 and from R10 to R21 in CCZ 11 and 11-16.

The adopted standards contain the following changes: residential prescriptive wall R-value requirements as R13 for CCZ 4 and R15 for an equivalent value for commercial buildings. In the mandatory measures section, Section 150.6(b), 2A’s requirement is set for 264 framing or greater to have insulation not less than R-10.

Docket No. 64682
AcH Additional Comments Letter 2012-06-14Thn-64682.pdf

120.6(a)

Commercial boilers do not typically use parallel positioning control to minimize NOx emissions.

This statement is not accurate. According to the Energy Commission’s appliance database, there are at least 684 kinds of commercial boilers in the California market in the size category of 5 million BTU/hr or larger heat input equipped with parallel position control. This includes boilers by 27 different manufacturers in the database (http://www.appliances.energy.ca.gov). Regardless, Commission has added an exception from this requirement for higher efficiency commercial boilers.

Docket No. 64686
Mares and Dow Construction Comments Letter 2012-06-29Thn-64686.pdf

150.2(14) and 150.2

Commercial boilers are the same as in Docket 64661.

Commercial boilers are the same as in Docket 64662.

Docket No. 64688

Commercial boilers are the same as in Docket 64662.

Docket No. 64706
Sustainable Roofing_Section_Commits_THN-64706.pdf

150.2 (h) 1.3

Comment is the same as in Docket 64661.

Response is the same as in Docket 64662.

Docket No. 64707
NHG_Product_Reviewing_Tek_Comp_Comments_Tek_64707.pdf

110

Recommendation is to create two efficacy standards for luminaire, one for traditonal lamps with a 90 Color Rendering Index (CRI) and asecond level for a 90 CRI.

No Standards are not based upon the rating of energy (light bulbs) installed in luminaire, but upon the classification of the luminaire, as listed by National Laboratory. Lamps vary over the 95 CRI. Therefore, the Standards do not use lamps to classify permanently installed luminaires.

Docket No. 64713
Skylights Rev Inc Comments Letter 2012-06-14Thn-64713.pdf

150.2 (h) 1.3

150.2 (h) 1.3

150.2 (h) 1.3

This statement is not accurate. According to the Energy Commission’s appliance database, there are at least 684 kinds of commercial boilers in the California market in the size category of 5 million BTU/hr or larger heat input equipped with parallel position control. This includes boilers by 27 different manufacturers in the database (http://www.appliances.energy.ca.gov). Regardless, Commission has added an exception from this requirement for higher efficiency commercial boilers.

Docket No. 64715
Public_Comments_Rich_Trottier_THN-64715.pdf

150.2 (h) 1.3

150.2 (h) 1.3

150.2 (h) 1.3

no

no

no

Comment was a proposal for a substantive change that had not been presented at workshops and thus could be considered for a 15-day language change.

Comment was a proposal for a substantive change that had not been presented at workshops and thus could be considered for a 15-day language change.

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Docket No. 64716
Newport Ventures Inc Comments on the Proposed Fan Efficiency Requirements forCentral Integrated Systems THN 64716.pdf

150.1(c)(1)

Proposed eliminating the 15.8 Motors and the 25.6 inch fan for fan efficiency requirements and proposed instead to require electronically commutated motors or may have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

Proposed eliminating the 15.8 Motors and the 25.6 inch fan for fan efficiency requirements and proposed instead to require electronically commutated motors or may have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

Proposed eliminating the 15.8 Motors and the 25.6 inch fan for fan efficiency requirements and proposed instead to require electronically commutated motors or may have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

no

no

no

no

no

no

Docket No. 64717
Newport Ventures Inc Comments on the Proposed Fan Efficiency Requirements forCentral Integrated Systems THN 64717.pdf

150.1(a)

Proposed Central Fan Integrated Ventilation Systems: require electronically commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

Proposed Central Fan Integrated Ventilation Systems: require electronically commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

Proposed Central Fan Integrated Ventilation Systems: require electronically commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with the New Standard MG-2006:

no

no

no

Docket No. 64718
Newport Ventures Inc Comments on the Proposed Prop Definition of Makeup-Air and High Temperature Requirements for Limiting Makeup Air-THN 64718.pdf

140.6b(2.4)

Current definition of Makeup air is far reaching and needs to allow flexibility to designers, kitchen ventilation definition needs to be revised to include infiltration & transfer air from immediate & adjacent spaces.

Current definition of Makeup air is far reaching and needs to allow flexibility to designers, kitchen ventilation definition needs to be revised to include infiltration & transfer air from immediate & adjacent spaces.

no

Docket No. 64719
Newport Ventures Inc Comments on the Luminaire Requirements Specifically as Pertaining to Night Lights-THN 64719.pdf

150.2(11)C

Recommend adding language that night lights shall not be required to be occupied by sensor or dimmer for safety reasons.

Language added as a recommendation, to add potential safety hazard associated with automatically turning off, or dimming night lights.

Page 9 of 18
Response to Written Comments

45 DAY 64793 Newport Ventures Inc.: Comments on the Luminaire Requirements Specifically Applicants to Part Iights-Th-64793.pdf

Part 11 Appendix A, 2.1.2 Lighting equipment should be clearly defined to apply to all systems that operate between 60 and 200 pounds per square inch (psig). Partially

Commission removed the definition and the new requirements will apply to all systems that are operating at 60 psig and higher. No justification was offered for limiting the definition of system operated at 200 psig or less, and nothing in the record supports such a limitation.

45 DAY 64809 Accurate Air Engineering Inc.: Comments_Th-64809.pdf

120.2.1 If compressor systems, new and existing, should meet the requirements of the new code.

Partially

Commission agreed, but added an exception to these requirements for existing centrifugal compressor systems for reasons raised by another commenter.

45 DAY 64810 Comments

120.2.1 The word “approved” in “approved controller” should be removed as it is confusing. Yes

Commission agreed.

45 DAY 64812 Comments

120.2.3 Remote location compressor system should not get exempt. Yes

Commission agreed.

45 DAY 64814 Robert Mawson and Associates: Comments_Th-64814.pdf

110 3(c)3 Recommend changes to the proposed showerhead requirements.

No

Proposed showerhead requirements have been withdrawn.

45 DAY 64844 Accurate Air Engineering Inc.: Comments_Th-64844.pdf

1.41 4(h) Yes

Yes

Based on the study submitted, the three sensor calibration accuracies were widened as noted by these having no energy impact.

45 DAY 64857 Global Cool, Inc.: Comments_Th-64857.pdf

45-31/AA & 45-08/16 Supports the proposed prescriptive requirements for building envelopes, for both sheeted and sloped-sheared for the 2013 Building Energy Standards, Title 24.

Yes

This commenter letter supports the standards and does not request changes to the standards.

45 DAY 64858 Robert Mawson and Associates: Comments_Th-64858.pdf

110 3(c)3 Recommend changes to the proposed showerhead requirements.

No

Proposed showerhead requirements have been withdrawn.

45 DAY 64875 Comments

110 3(c)3 Recommend changes to the proposed showerhead requirements.

No

Proposed showerhead requirements have been withdrawn.

45 DAY 64879 Comments

EFS Industry Alliance: says that there is no data to support the 0.3% water absorption limits for expanded polystyrene insulation.

No

The 0.3% absorption rate is consistent with ASHRAE std. 90.1, and the report cited in the comment as assertedly supporting evidence (NRCA, Report No. 3131.2) actually demonstrates the need for the proposed (and adopted) regulation: the report shows that about half of the expanded polystyrene products tested had absorption rates of about 0.5% and that many products failed.

45 DAY 64897 Comments

EFS Industry Alliance: comments cite in the 2013 Building Energy Standards, Title 24.

2013 Title 24

No

The 0.3% absorption rate is consistent with ASHRAE Std. 90.1, and the report cited in the comment as assertedly supporting evidence (NRCA, Report No. 3131.2) actually demonstrates the need for the proposed (and adopted) regulation: the report shows that about half of the expanded polystyrene products tested had absorption rates of about 0.5% and that many products failed.

45 DAY 64901 Comments


Staff received permission to use the Revised Chapter 8, Draft Standard for BlowerDoor Testing of Buildings.

N/A

This is Energy Commission staff document developed in this proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45 DAY 64906 Global Insulation Solutions: Comments_Th-64906.pdf

N/A

Global Green USA supports the 2013 Building Energy Standards.

N/A

The comment supports the standards and does not ask for changes to the standards.

45 DAY 64921 Comments

100.1 Added that definition of INSULATING SHEATHING be replaced by a definition of INSULATING SIDING.

Yes/No

The Commission removed the definition of INSULATING SHEATHING. The Commission did not add a definition of INSULATING SIDING but instead added the definition of CONTINUOUS INSULATION, which incorporates both Insulation Sheathing and Insulation Siding.

45 DAY 64926 Comments

Table 150.3. A. Footnote 4.

Footnote 4 and the end of the sentence should “continuous Insulation Sheathing” to “continuous Insulation Sheathing”.

Yes

The Energy Commission agrees with the commenter and has revised the requirements for continuous insulation.

Table 150.3. A. Footnote 4.

Footnote 4 and the end of the sentence make “continuous Insulation Sheathing” to “no insulation”.

No

Commission added the entire footnote requirements to Table 150.3 and footnote 4 was added and it became footnote 4. Consideration was made to the issues brought up in the letter described.

Table 150.3. A. Footnote 4.

Footnote 4 is not always cost effective for smaller buildings.

No

The CAS report for process boilers makes a strong case for the proposed requirements being cost effective.

45 DAY 64927 Comments

Footnote 4 is not always cost effective for smaller boilers.

No

The CAS report for process boilers makes a strong case for the proposed requirements being cost effective.

Footnote 4 is not always cost effective for smaller boilers.

No

The CAS report for process boilers makes a strong case for the proposed requirements being cost effective.
Response to Written Comments

45-GAH 65153 Ska_Sarnafi_Comments_on_Term_Plan_Final_65153.pdf 140.3 and 141.0

[1] The Commission should use phased increase in the aged solar reflectance values because the GCP’s currently proposed changes [1](b) use current evidence to support the need for changes; [2](c) to demonstrate an appreciable economic or environmental benefit; [3](d) would result in significant market disruption; and [4](e) has a short implementation timeframe;

[2] The proposed Solar Reflectivity Index (SRI) value should be 72, based on a solar reflectance of 0.64 and an emittance of 0.57, yield, not 75, which seems to reflect an emission value of 0.85.

No. The Commission disagrees with the proposed phased increases. Regarding the first two points, the Commission is required to develop building standards that are cost-effective. The cost effective analysis and energy savings are based on the CAG report Nonresidential Cool Roof (June, 2011), Nonresidential Cool Roof (Oct., 2011), and Architectural Energy Corporation’s Cool Roof Nonresidential Consolidated Cost Summary (Feb. 6, 2012), and the Cost Effective Values (May 15, 2012). The Commission believes that the cost savings range from 0.55 to 0.70. No. 0.65 solar reflectance standard has a cost effectiveness of $40,000 to $16,000 to $20,000.

[3] (1) lack to the need (3) has or (4) has on the report Roofs 6, Energy Corporation’s and (2) has or (3) (Feb. 2012), the Cost Roof report dated October 2011. Further: the changes are needed to move California toward goal of net-zero energy buildings; (See California Public Utilities Commission, California Energy Efficiency Long Term Strategic Plan, at p. 6 (2008), available at http://www.cpuc.ca.gov/RM/studies/DO31448-208C-819.962-1081ABM77/07(ESG)ESPTan.pdf) Regarding market disruption, the Commission is aware of products that are already available searching for compliance—thermal emittance and a calculated SRI. SRI is an allowed “alternative” to meeting the required aged solar reflectance and thermal emittance. Specifying an SRI of 75 is opposed commenter’s suggested SRI of 72 helps maintain the energy savings for roofing products that have higher aged solar reflectance—helps maintain party between manufacturers who have committed to full testing of their products and those that do not (see Document No. 65153, SRI Equivalence).

45-GAH 65159 Ska_Sarnafi_Comments_on_Term_Plan_Final_65159.pdf 140.3q1

[1] The concern expressed in Doc #65153 is:

No. Same response as expressed for Doc #65153 (b) The driver of energy savings due to a cool roofing product is the product’s solar reflectance, not its thermal emittance. Thermal emittance is an allowed product tested value but it is only one element that helps define the product’s performance characteristics; over 2/3 cost roofing products in the CAG directory do have a thermal emittance 0.65 or above. The Standards specify alternative values that can be used for showing compliance—thermal emittance and a calculated SRI. SRI is an allowed “alternative” to meeting the required aged solar reflectance and thermal emittance. Specifying an SRI of 75 as opposed commenter’s suggested SRI of 72 helps maintain the energy savings for roofing products that have higher aged solar reflectance—helps maintain party between manufacturers who have committed to full testing of their products and those that do not (see Document No. 65153, SRI Equivalence).

45-GAH 65184 Robert_Erhardt_Philips_15_‐Day_Language_Comments_65184.pdf 130.11Cq1

Helps proposes an allowance specifically for high intensity discharge systems to be the diametric 60 percent of design power because most HID lighting cannot currently be dimmed to 50 percent.

Yes. Averages attended to allow high-intensity discharge lighting systems (HID) to be dimmed by 60 percent of design power instead of 50 percent. It is correct that HID lighting currently sits to 0.65 percent of design.

45-GAH 65188 Scott_Burke_of𝒏𝒏𝒏𝒏𝒏𝒏𝒏𝒏𝒏(numpy_digital_accuracy)_65188.pdf Consultant report documenting support requirements for digital pyrometer accuracy.

N/A. This is an Energy Commission staff document discarded in this proceeding in response to issues raised. it is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65189 New_Section_155_Requirements_65189.pdf

N/A. This is the final Case report that supports the new requirements in Section 1205.

45-GAH 65192 PEO_letten_65190.pdf 120.1, 120.2, 120.4, 120.5 0.01

Temporary reduction exception to section 120.1 to be increased to 30 min; ventilation control in conjunction with occupancy sensor could be revised; addition exception to nonresidential environments.

Yes. Control interval was increased from 5 min to 30 min as noted by ASHRAE research; Ventilation controls within occupancy sensor areas was revised to accommodate two option as desired by stakeholder; exception was added as indicated for pollutant free areas.

45-GAH 65196 ArchitecturalEnergy_Corp_Roof_Product_ReReqs_65196.pdf 140.3q1


N/A. This comment letter supports the standards and does not request changes to the standards.

45-GAH 65198 Doug_Scott_Responses_65198.pdf 120.6

Doug Scott responds to challenged comments.

N/A. Doug Scott responds to challenged comments.

45-GAH 65336 Steve_Bayden_of_RESNETComment_65336.pdf 834.8

Allowance for GEC to use RESNET as a leak detection process.

N/A. No action required.

45-GAH 65346 Email_to_Doe_Suggesting,addressing_65346.pdf 140.3q1

[1] Staff email response to Doc #65153

N/A. This is an Energy Commission staff document discarded in this proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65355 Testa_for_Revised_Reqs_65355.pdf 150.09r12

Energy Commission staff submit notes on the rationale for the proposed requirements for an Iber Video Labeling “To be revised. Section 1500 of the 2013 Building Energy Efficiency Standards.

N/A. This is a comment document discarded by Energy Commission staff in proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65356 CEC_500_2012_063.pdf 120.4, 120.5

[1] CEC-PAM Report regarding EFFICACY CHARACTERISTICS AND OPPORTUNITIES FOR NEW CALIFORNIA ISSUES.

N/A. This is a comment document discarded by Energy Commission staff in proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65358 Doug_Scott_Responses_65358.pdf 140.3q1


N/A. This is a comment document discarded by Energy Commission staff in proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65362 Commercial_Building_Infiltration_65362.pdf

N/A. This is a comment document discarded by Energy Commission staff in proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65362 Commercial_Building_Infiltration_65362.pdf

N/A. This is a comment document discarded by Energy Commission staff in proceeding in response to issues raised. It is not a public comment directed at the regulations or the process by which they were adopted.

45-GAH 65362 Commercial_Building_Infiltration_65362.pdf
Response to Written Comments

45-DAY 65282 Response to Commissioner Doodles re ARMA's Letter recommending the replacement of the 15 day 65233.pdf

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.


140-940.1 & 140-900(A)

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.


140-940.1 & 140-900(A)

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65214 Letter from Missile Energy Commission staff to ARMA responding to ARMA’s comments and supporting data related to non-residential/cost/solar water heating value factors proposed in the 2015 Building Energy Efficiency Standards.

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65216 Letter from Missile Energy Commission staff to ARMA responding to ARMA’s comments and supporting data related to non-residential/cost/solar water heating value factors proposed in the 2015 Building Energy Efficiency Standards.

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65234 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65235 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65236 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65238 N/A

No

No

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65243 N/A

No

No

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65244 N/A

No

No

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65245 N/A

Yes

Yes

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65246 N/A

Yes

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65247 N/A

No

No

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65248 N/A

Yes/N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65249 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65250 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65251 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65252 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65253 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65254 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65255 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65256 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65257 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65258 N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65259 N/A

Yes/N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65260 N/A

Yes/N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65261 N/A

Yes/N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.

15-day 65262 N/A

Yes/N/A

N/A

This comment is a responseCU_RE_Leagee_GEN_5.020 etc. for the proceedings and is not a direct comment directed at the regulations or the process by which they were adopted.
Paragraphs...
15-05484 Frank_Morison_Arcol_Com- 
y_name_15_Day_Language_75-
gang_TN-65495.pdf

180.6(b) Definitions

Commenter objects to the efficiency requirements for evaporative condensers used in Commercial Refrigeration Applications. Commenter supports: (1) reducing the proposed minimum efficiency requirements for evaporative condensers; (2) removing an exception for fan speed controls in cooling towers because the technology is no longer expensive and it conflicts with new requirements for multiple cell heat exchangers; (3) adding C37 Standard (NFC-105-1-1) for Closed Circuit Cooling Towers and updating standard CSTD-201-04 to the 2011 year; (4) adding “Circuit” to the definition of Open Cooling Tower and making corrugating changes to the sections on Heat Rejection Systems and Tower Flow Turbines (which currently term the system “open cooling tower”).

Partially

(1) The Commission did not make this change for the same reasons explained in response to Comment no. 12 (Docket No. 41436), which responds it incorporates here. (2) The Commission did not make this change as it has no data to support commenter’s assertion that fan speed controls no longer warrant an exception because of decreased expense. (3) Both documents were added to the definitions section 101.1 along with updating the third cooling technology standard to the most recent document as suggested. (4) Definitions have been clarified in these.

15-05486 Prentis_P_Bay,Baltimore-Ar- 
coll_Company_Comments_on_ 
15_Day_Language_75-
gang_TN-65497.pdf

130.6(d)

Suggests reducing the proposed minimum efficiency requirements for evaporative condensers because the efficiency requirement for evaporative condensers with heat exchanger injectors greater than 8,000 MBH would be detrimental to industry by eliminating more than 50% of such evaporative condensers, and may increase energy usage due to an unintended market switch to less cost but lower efficiency systems.

No

The response as docket # 41436, which is incorporated here by reference. Commenter is incorrectly referring to two different methods of measuring efficiency and claiming one is “less efficient”. Commenter offers no evidence that the market will behave as he is suggesting.

15-05487 CMH_Comments_Ado-
ption_of_15_ 
Language_for_the_2013_B1-
D1_Language_75-
gang_TN-65499.pdf

110.3

Concern that water efficiency requirements proposed are not in line with Water Sense, are in the incorrect section in Title 24 and duplication of CALGreen codes.

Yes

Water conservation measures were removed from the efficiency standards and will be placed in the CALGreen.

15-05488 Giuliani_For_Cool_Energy_Co-
ns_Comments_on_15_ 
Day_Language_75-
gang_TN-65500.pdf

110.1

Comment in support of definition of continuous-insulation

NA

No action needed.

15-05489 Giuliani_For_Cool_Energy_Co-
ns_Comments_on_15_ 
Day_Language_75-
gang_TN-2013.pdf

110.1

Request to clarify requirement as it applies to 24H framing in table footnote.

NA

Proposed change language weakens stringency of standards by allowing 24H framed assemblies of higher U-factor than that for 24H framed assemblies, even though the separate requirements for 24H framing are cost-effective.

15-05505 RDMC_Comments_on_the_15_ 
Proposed_Changes_to_California 
1970’s.pdf

140.30(j)(6) & 
140.39(b)

RDMC opposes the proposed nonretrofittable low-sloped roof/soffit requirement, clarifying that the conducted cost analysis done by AEC is flawed.

Btu/h.pdf, which stated, in part, every effort was made by staff to ensure the data collection was representative of industry costs. The DoE gathered is representative of industry’s products and installation costs. The DoE procedure included contractors, distributors and manufacturers who work throughout the state.

15-05506 EVAPC_Comments_on_the_15_ 
Day_Language_75-
gang_TN-65501.pdf

110.2(c)

The comment reinstates the commenter’s concern regarding as ducted (19) 30% & 40% 15-04484 with no new evidence or support materials for their request to lower the evaporative condenser specific efficiencies from currently proposed efficiency levels.

No

The commenter is a duplicate of No.414484 & 15-04418. After the previous two docket comments, a shared discussion with industry experts drafted a response to the prior docket comments and was shared with the two docket commenters (this comment is in response to the expert’s response-e-mail (which was added as a document relied upon and listed in the response to docket No. 414418). However, this comment has failed to provide any counter argument or any new evidence. Industry experts have previously stated that lowering the specific efficiency of the evaporative condensers would reduce the energy savings from the standards.

15-05507 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65502.pdf

120.69(c)

The proposed requirement of 120.69(c) for position or air shutdown for commercial air systems to be very vague and materially under what it should be to avoid the confusion using the conventional terms used by the industry.

Yes

The definition for air circulation or air shutdown was inadvertently omitted from section 100.3. The Commission has added a new definition for this term in section 100.3 in response to this comment.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65503.pdf

120.69(c)

We do not understand how the proposed standards for commercial boilers is not cost-effective for a commercial boiler installed in a climate zone where it will only operate about 100 hours a year (or more in extreme climate areas).

N/A

The cost effectiveness analysis for the combustion air position or shutdown of commercial boilers used 164h as its study number. This is based on ISO 5167-A, which is the average time in climate study across the simulated climate zones. The number of standby hours does not vary significantly by climate zone and that does not affect the analysis to a significant degree. This is derived from a series of building energy simulations as described in the CSM report on commercial boilers.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65504.pdf

120.69(c)

The requirement of 120.69(c) assures the use of parallel positioning controls. Our search of the CEC database of commercial boilers did not find any models of commercial boilers with repairs of 1,000,000 Btu/hr or greater and equipped with parallel positioning controls. The CEC should not adopt this requirement unless it can show that there are compliant models already available.

N/A

We do not find any information on this assumption.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65505.pdf

130.5(d)

The comment is that the use of common gas and combustion air control linkage or jack shaft if it is used in combination with a trim effecting device capable of providing effective oxygen trim control, because it does not comply with the Standard.

No

The use of a common gas and combustion air control linkage or jack shaft in combination with a trim effecting device capable of providing effective oxygen trim control gained some popularity in the 1970’s, but in very uncommon these days because it is not reliable on a long-term basis.

15-05506 AHR_Comments_on_Design 
and_Control_Requirements_in_ 
_Quantities_of_Outdoor_Ac 
_Towers.pdf

120.69(d)

AHR comments that the proposal to require outside airflow be measured within a 10% accuracy range was introduced late in the pre-rulemaking process and not enough time was provided for stakeholder comment. They also assert that 30% is too narrow a range of measure for airflow.

Partially

The Commission revised the regulation to indicate that the 5 percent (or 20 to 120 percent) airflow range.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65506.pdf

120.69(d)

AHR comments that the word “manufacturer” from the warranty requirement because it may put the on the wrong manufacturer.

No

The 5 year warranty is existing language, the word “manufacturer” was added in the 2013 Standards to make it clear that the manufacturer of the economizer must provide this warranty. Without the word “manufacturer” it would be confusing as to who will provide the warranty.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65507.pdf

140.94(d)

AHR comments that the word “manufacturer” as previously addressed in comment #5.

No

The word “manufacturer” was included in the 2013 Comment to indicate that only the manufacturer of the economizer is responsible and not the 3rd party.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65508.pdf

101.1

Comment to modify definition of l factor.

Yes

The Commission agrees to nonstandardize change.

15-05506 AHR_Comments_on_15_ 
Day_Language_75-
gang_TN-65509.pdf

140.39(d)(6)

Comment to modify exception for clarification.

Yes

The Commission agrees to nonstandardize change.

Page 13 of 18
Response to Written Comments

15-day G5039
15-day G5038
15-day G5037
15-day G5036
15-day G5035
15-day G5034
15-day G5033
15-day G5032
15-day G5031
15-day G5030
15-day G5029
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15-day G5013
15-day G5012
15-day G5011
15-day G5010
15-day G5009

Comment to modify exception for clarification.
Yes
The Commission agrees to nonsubstantive change.

Comment to modify exception for clarification.
Yes
The Commission agrees to nonsubstantive change.

Comment to modify footnote 1 for clarification.
No
The Commission disagrees the requested changes are necessary.

Comment to modify language for greater clarification.
Yes/No
The Commission agrees with intent of comment but does not feel proposed modification is needed in full for clarity. Inclusion of sub-statements "1 and 2" are important to ensure these frame type meet requirements. The Commission agrees to some nonsubstantive changes.

Comment to modify language for greater clarification.
Yes
The Commission agrees to nonsubstantive change.

Comment to modify various in factor tables to include additional columns for continuous insulation.
Yes
The Commission agrees to nonsubstantive change. However, since explicit to factor calculations are allowed tables do not need to be fully indicative of every insulated sheathing product on the market.

Comment to modify language for greater clarification.
Yes
The Commission agrees to nonsubstantive change.

Comment to modify language for greater clarification.
Yes
The Commission agrees to nonsubstantive change.

Comment to modify pipe insulation provisions grammatically and (f) to include an exclusion from using adhesive tapes.
Yes/No
The Commission adopted the proposed grammatical changes but rejected the proposed exclusion of adhesive tapes because the commission failed to provide any performance criteria for pipe insulation that would provide the same energy savings in the requirement to use adhesive tapes. Further, such exclusion would prevent some type of insulation products. We understand that some specialized pipe insulation product does come with adhesives to enable pipe products that can meet the insulation requirements do not have adhesives. Therefore, not allowing adhesive tapes could prevent the use of some insulation materials.

There are situations where manual control of egregious lighting is desirable, but the proposed standards require automatic override. Recommend allowing the use of UL 508A shut relays for automatic ON of luminaires designated as egregious lighting that are normally under manual control.
No
The recommendation is unnecessary. An exception to Section 150.1(c) already allows up to 1/2 watts per square foot of lighting to be continually illuminated. This is an allowance, not a requirement, for a certain amount of lighting to be left on. Therefore, the Standards already allow the use of shut relays for automatic ON of luminaires designated as egregious lighting.

Countdown timer switches can save more energy than vacancy sensors, are easy to install, set up, and commission, and are excellent automatic shut-off devices; yet the proposed standards prohibit them in most applications. Recommend striking the prohibitory language, or adding language allowing timer switches to be used in applications where other means of automatic shut-off control will not operate reliably.
No
Countdown timers are not recognized for compliance with the automatic shut-off requirements because they do not shut off lighting in response to the absence or presence of occupancy, or according to time of day, as required by the Standards. The provision prohibiting countdown timers was added to 40-595 language for clarification, because of the propagation of misinformation regarding the use of countdown timers for compliance.

Yes
The record does not establish that fifteen minutes is a preferable duration for restroom vacancy sensors, as opposed to ten minutes.

Yes
It has not been submitted to the Energy Commission, documented in the record, nor discussed publicly, if automatic lighting controls in small toilets are cost effective, technically feasible, or save energy.

Letter from RWH Engeneering dated May 30, 2012. Recommends defining the maximum ballast factor to be the high-end risk or running value defined in Section 100.1.
No
The value of 100% would not preclude implementing the setting of high-end risk or running of the ballasts. Trim or tuning of the ballast could be done within the 80-85% bin, and still allow the system to be upgraded to comply with the 100% requirement.

App 1-2
Commission recommends using the most current public data update for AHRI 590/595.
Yes
Corrected to B1988

Comment opposes the requirements that design review be completed by a design engineer and proposes changes to the Exception for section 120.8, subcl. (c) and related definitions to remove that requirement.
No
The justification for using a design engineer to provide independent design review is in the documents relied on, in a case study (2011 Cage Design, Phase 2 subPDF) discussing both the requirements and associated cost-benefit analysis.

The commenter expresses concerns about patent and intellectual property issues for manufacturers who elect to pursue the production of a thermostat with a modular radio in order to comply with requirements in Joint Appendix JAS.
No
Joint Appendix JAS allows for thermostat communications to be provided by either on-board communications or module radios. Implementation of the module radio approach by a manufacturer is always voluntary. Both approaches are treated equally with no advantage or disadvantage given to the module radio approach. There is no requirement that any product with the module radio approach be made available by manufacturers. Any new product developed for a mature market sector, such as thermostats, is subject to patent and intellectual property issues due to the breadth and depth of the existing patent and intellectual property within the market sector. Any manufacturer who voluntarily elects to pursue production of a thermostat using the module radio approach will already necessarily be performing significant due diligence on existing patents and intellectual property within the thermostat sector.

JAS
Demand response is already popular in the commercial building sector so it is not necessary to require demand response capable thermostats for nonresidential buildings.
No
The record demonstrates that demand response capable thermostats were determined to be cost effective for nonresidential buildings.

JAS
Proposals to clarify definition of U-factor to improve consistency of how terminology is used throughout Standards.
Yes
The Commission accepted proposed language modifications with minor Commission changes to better coincide with ASHRAE definition.

JAS
Proposal to clarify exceptions for aged solar reflectance.
Yes
Commission has made modification in the errata.

JAS
Proposal to clarify retrofit assembly for NES factor requirement.
Yes
The Commission accepted proposed language modifications with minor Commission changes to improve language.

JAS
Proposal to consolidate footnotes 1 and 2 and delete language regarding denning wall insulation requirements.
Yes/No
Commission does not agree to consolidating footnotes 1 and 2 but agrees that deleting last sentence of footnote 2 helps to improve clarity of the intent of the requirements.

JAS
Proposal to clarify language of prescriptive wall insulation requirements.
Yes/No
The Commission agrees that adding language to include mass walls helps improve clarity; however, Commission does not agree to remove subsections "V" and "X" as these are necessary to clarify that wall requirements apply to all wall framing sizes.

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Table 110-2.

- Propose to include additional insulation R-values in IAPB assemblies and clarify assembly descriptions.
  - Propose to delete language regarding framing of slate insulation.
  - Agree, however, to include assemblies.

Table 121-6.

- Identical comments and responses as Docket # 65497.

Baltimore_Corning_Comments_on_the_15_‐Day_Language_for_the_2013_Energy_Efficiency_Rules_andTN_65497.pdf

10-11A

- Commissioner provides information for consideration in future code cycles. Email from Michael Lindsey dated May 30, 2012. Recommends clarifying compliance with the Outdoor Lighting Zone requirements.

140.4(e)(1).

- Propose language to require the capacity bound on the number of units, ceiling or floor rating to be determined.

Table 110-2.

- Want to remove the changes that will be mandated by federal standards after 1/1/13.

Table 110-2.

- Propose for changing the capacity bound on the number of units, ceiling or floor rating.

Table 110-2.

- Propose for removing of flood sole (a) due to applicability of IEER for unit's capacity control.

Table 110-2.

- Propose for removing of flood sole (a) due to applicability of IEER for unit's capacity control.

Carrier_Corporation_Comments_in_re_Proposed_Revisions_TN_65556.pdf

130.2(G).

- Proposing section 140.4(a) subsection 1 and 2 define requirements for economizers with capacities greater than 8,000 Btu/hr. The requirements of Title 24 only require economizers for units with greater than 54,000 Btu/hr. Suggest changing requirements to 54,000 Btu/hr different in applicable capacity threshold.

140.4(k)(1).

- Proposal of section 140.4(k)(1) do not require the capacity of unit's capacity control.

140.4(k)(1).

- Proposal of section 140.4(k)(1) do not require the capacity of unit's capacity control.

150.1(b)(4)(B).

- The comments is related to the 100% capacity position, not incorporated. The 100% capacity position requirement is not for control system capacity, nor for the operational requirement of AHRI. Therefore, this comments may be not necessary.

150.10(b).

- Propose a requirement for field verification of system performance.

150.10(b).

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150.10(b).

- Propose a requirement for field verification of system performance.
Response to Written Comments

<table>
<thead>
<tr>
<th>Date</th>
<th>65568</th>
<th>Letter of support from the California Building Industry Association providing comments for consideration in context of comprehensive building energy efficiency policies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td>The Energy Commission appreciates the support for these standards and the comments for consideration in developing the State's energy policy.</td>
</tr>
</tbody>
</table>