Response to Written Comments

	Docket -Number	Title or Other Description of Comment	Sections of the Proposed Standards to Which the Comment is Relevant	Summary of the Comment	Did the Energy Commission Make the Recommended Changes to the Proposed Standards?	The Commission's Response to the Comment
45-DAY	64066	All_Parties_Letter_regarding_Flow_Hood_Devices_TN-64066.pdf	RA3.3	The Commission describes concerns on Residential Appendix 3 related to the use of non-powered flow hood devices for measuring residential central space conditioning system air-handling unit airflow, for determining compliance under proposed updates to the Building Energy Efficiency Standards.	N/A	This is an Energy Commission staff document docketed 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	64070	Public_Comments_from_Howard_Aherns_re_Building_Energy_and_Efficiency_TN-64070.pdf	150	Specific reference to outside application of protection and ellimination of acceptable products. Also included addition of Adhesive tape should not be be permitted in insulation.	Yes/No	Reference to outside condition was accepted, ellimianation of the products that could be used was not accepted as these are not intended to be exclusive of other materials or other possible solutions. Reference to Class 1 or Class II vapor was included. Categorical exception to the use of adjesive tapes was not included as the manner of application of the protective system makes a differences as well as the type of adhesive tape. Clarifying language will be included in the compliance manual.
45-DAY	64087	Associated Roofing Contractors and the Union Roofing Contractors Comment Letter2012-03-12 TN-64087.pdf	141(b)i.	The Prescriptive insulation tradeoff is good but does not allow the roofer to put insulation below the deck. Can we have an insulation value which can be for insulation above the deck..	Yes	(1) See previous comment and response, immediately above. (2) The adopted standards contain a U-factor trade off between insulation and solar reflectance for roof assemblies. By using a U-factor for the assemblies, the building designer user can install the insulation above or below the roof deck as long as the assemblies meet the applicable U-factor.
45-DAY	64087		140.3(b)	The Overall Envelope ("Time Dependent Value") Approach is deleted but contractors do use it and it therefore should be retained.	NA	The Overall Envelope TDV Approach has been deleted but will be replaced with a simplifed performance calculatoin. The current OTDV method was deleted because of lack of general use, inappropriate use of the hand filled-in forms, and limits in the formula which created incorrect values in extreme cases.
45-DAY	64138	Gabel Associates LLC Comment Letter 2012-03-10 TN-64138.pdf	na	Various comments on compliance software output requirements, ACM Reference Manual, and final compliance document format and content.	No. Relevant only to ACM Approval Manual.	This Comment did not address the proposed standards, but rather only yet-to-be proposed compliance software and the ACM Reference Manual. They are noted and will be addressed when the ACM Reference Manual is completed.
45-DAY	64149	Roof Coating Manufacturers Associations Comments re 2013 Building EnergyEfficiency Standards 2012-03-12 TN-64149.pdf	140.3	The CEC should not change the 0.55 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 premiums for "cool" 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 0.65 target.	No	The Commission disagrees with the commenter. 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 effective 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), at 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 standard 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, at p. 161.) (2) From the report done by the Architectural Energy Crop (AEC) called, "Non-residential Cool Roof Cost Summary," (Docket #65228), the general makeup of questions for the survey instruments 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 30% 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 Gnarus Advisers in its response to comment 89 (Docket No. 65079), and incorporates that response here. (4) The wage data differences between union and non-union contractors is not relevant to the cost effectiveness of the standards. The wage data simply demonstrates that the labor costs to install a non-cool roof versus a cool roof are the same, reflective of the fact that roof products that are highly reflective are installed in the same manner as those that are less reflective, making these costs neutral in calculating the cost-effectiveness of the standards. 5) The e-mail survey, attached to AEC's Non-residential Cool Roof Cost Summary (Feb. 8, 2012), specifically requests information for a Highly Reflective Roof, which is defined as a roof with an aged solar reflectance of 0.65. Therefore, it is clear that survey respondents were basing their feedback on a 0.65 cool roof standard. In conclusion, a 0.63 aged solar reflectance standard is cost effective and those costs and benefits are supported by substantial evidence in the record. In contrast, retaining the 0.55 aged solar reflectance standard would result in lost energy savings, making this alternative less effective at achieving the goals of the building standards. Therefore, the Commission has not adopted the requested change (or, rather, non-change) to the standards.
45-DAY	64149		141(b)1B.	To prevent confusion in the market, the CEC should keep the aged solar reflectance for new and altered roofs the same.	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 a 0.63 aged solar reflectance standard to prevent confusion between the requirements for new roofs and alterations. (See Payam Bozorgchami, Commission Staff Comment (Apr. 3, 2012), at p. 1, number 2.) The Commission also extended the U-factor tradeoff between insulation and aged solar reflectance from alteraitons only to both new roofs and alterations. (See *id.* , at p. 1, number 3.) Both changes increase the availability of roofing products to meet the standards and add flexibility to how roofing contractors meet the standards.

45-DAY	64150	Roof Coating Manufacturers Associations Low Slope Public Testimony 2012-03-12TN-64150.pdf	140.3 and 141.0	The CEC'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.	No	The energy savings for Title 24 building standards, including the roof reflectance standards for nonresidential low-ssloped roofs, are developed based on annual Time Dependent Valuation (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 used to generate, transmit and distribute electricity and the energy used to distribute natural gas) to the expected natural gas and electricity savings, 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-400-2012-002, at p. 11;*see also* Energy and Environmental Economics, Inc., Time Dependent Valuation of Energy for Developing Building Efficiency Standards, at p. 3, prepared for the California Energy Commission (Feb. 2011), available at http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/general_cec_documents/Title24_2013_TDV_Methodology_Report_23Feb2011.pdf (referenced in CASE Report,*Nonresidential Cool Roofs* (Oct. 2011), at p. 20, and explaining TDV methodology in detail.) The concept behind TDV is that energy efficiency measure savings should be valued differently depending on which hours of the year the savings occur, to better reflect the actual costs of energy to consumers, to the utility system, 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" electricity use relies heavily on generation from less efficient power plants, and peak periods coincide with hot, summer periods 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-400-2012-002, at p. 10.) The Commission originally presented the TDV calculations at a November 16, 2010 public workshop, and did not receive feedback to suggest it was an inappropriate measure of energy savings from nonresidential cool roofs. Therefore, the Commission appropriately relied on energy savings based on TDV that more accurately reflect the actual costs of energy.
45-DAY	64155	Asphalt Roofing Manufacturers Associations Testimony Before the CEC on March 122012 2012-03-12 TN-64155.pdf	140.3 and 141.0	(A) The CEC should not change the 0.55 aged solar reflectance standard in this building standards cycle because the cost justification supporting a 0.65 or 0.63 standard, is flawed: (1) the baseline cost assumptions from a 2002 report by Lawrence Berkeley National Lab were flawed then and are flawed now; and (2) the consultant report was rushed, resulting in only 12 responses, which does not cover all of the roofing systems in the market. Therefore the cost justification does not support the standard and violates the Warren-Alquist Act. (B) Having two different requirements for new and existing roofs will result in confusion in the marketplace. (C) The CEC says that energy "trade offs" will allow products to remain in the market. However, these trade offs are not in the code, but in the ACM (Alternative Calculation Method) which is not yet published, so we do not know this is true. (D) Insulation should be the prescriptive standard and cool roofs should be a compliance option in the ACM (Alternative Calculation Method).	No/Yes/No/No	(A) The Commission disagrees with the commenter. The baseline cost data and consultant cost analysis are sufficient to support even a more stringent aged solar reflectance standard as cost-effective. See CASE Report, *Nonresidential Cool Roofs* (Oct. 2011), at pp. 23-25 (showing cost-effectiveness for a 0.67 standard); Architectural Energy Corporation, Draft *Non-Residential Cool Roof Cost Summary* (Feb. 8, 2012), at p.3 (showing cost-effectiveness for a 0.65 standard). The Commission has specifically responded to Comment (A)(1) and (A)(2) in its Response to Comment 6a (Docket Number 64149), numbers (1) and (3), and incorporates those responses here. (B) As explained in Response to Comment 6b (Docket No. 64149), the Commission changed the roof reflectance standard for new roofs to 0.63 to match the standard for alterations in response to these concerns. (C) Insulation tradeoff tables for aged solar reflectance have been developed for both 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 were 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 25402.1. This manual provides guidance on alternative, optional methods for demonstrating compiance with the standards. (See Payam Bozorgchami, Commission Staff Comment (Apr. 3, 2012), at p. 1, number 3; March 12, 2012 Workshop Transcript, at p. 47.) Contractors continue to have the option to comply through the performance standard (using the Overall Envelope Approach) or the prescriptive standard (installing cool roofs versus insulation tradeoffs). (D) The standards are based on combinations of measures which must be both cost effective and result in energy savings. The thermal dynamic properties of insulation and cool roofs are different. Insulation provides thermal resistance whereas a cool roof retards irradiative energy. The energy-efficiency significance of a cool roof goes beyond just energy savings of the building in which it is installed; its attributes also affect the heat of the urban environment, although those effects are not quantified in this analysis or relied upon to adopt these standards. The cost-effectiveness analysis and energy savings are based on the CASE Report, *Nonresidential Cool Roofs* (Oct. 2011), and on Architectural Energy Corporation's Draft *Cool Roof Nonresidential Consolidated Cost Summary* (Feb. 8, 2012) and C*ost Effectiveness* (May 15, 2012). These documents relied upon demonstrate that the energy savings from a 0.55 to a 0.70 or 0.65 aged solar reflectance standard has a cost effectiveness of between $0.40/sq ft and $1.35/sq ft and a state wide energy savings of approximately 47 gigawatt hours (GWh). (CASE Report, *Nonresidential Cool Roofs* (Oct. 2011), at pp. 3, 27.) 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. 6 (2008), available at http://www.cpuc.ca.gov/NR/rdonlyres/D4321448-208C-48F9-9F62-1BBB14A8D717/0/EEStrategicPlan.pdf.)
45-DAY	64156	Roofing Industry Comments on 2013 Building Energy Efficiency Standards2012-03-09 TN-64156.pdf	140.3 and 141.0	(A) RCMA repeats the arguments made in its March 12, 2012 Comment (Docket No. TN 641499, Comment Nos. 6a and 6b.) (B) The CEC's TDV calculations do not accurately consider the impact of increased penetration of various renewable energy technologies over time, which could skew the standards based on these calculations; the Commission should therefore reevaluate these models before increasing solar reflectance. (C) Until there is equal application of the requirements of this energy code (at the local level), any further stringency in its requirements is inappropriate.	No/No/No	(A) The Commission's responses to RCMA's arguments regarding the cost justification and different values for new and altered roofs are included in Response to Comments 6a and 6b. (B) The commenter is mistaken on this point. The time-dependent valuation (TDV) methodology did include the costs and generation impacts of renewable energy penetration based on California's Renewable Portfolio Standard (requiring 33% renewables by 2020) as well as other state policies, such as Assembly Bill 32 (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.ca.gov/title24/2013standards/prerulemaking/documents/general_cec_documents/Title24_2013_TDV_Methodology_Report_23Feb2011.pdf.) Therefore, the Commission did not re-evaluate the TDV models as they already accounted for the impact of renewable energy penetration. (C) The Commission undertakes many activities to increase compliance with the building efficiency standards: (1) Developing compliance manuals; (2) Providing an Energy Commission Hotline, where staff assists local jurisdictions and the public in properly meeting the Energy Standards; (3) Providing an online Learning Center, which has information for local jurisdictions to increase their understanding of the Energy Standards and to increase compliance; (4) Supporting utilities in providing training to the local jurisdictions and the public in enforcement and implementation of the Energy Standards; (5) Presenting and providing training at CALBO Ed Week (the California Building Official education week) to local jurisdictions; and (6) International Code Council (ICC) 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.
45-DAY	64162	ASHRAE TC08-06 Standards Subcommittees Comments on 2013 Building	110.2 and Joint Appendix1	(1) Several definitions should be refined and updated with references to appropriate documents	Yes.	Definitions were revised to accomodate majority of the suggested changes. Reference documents were updated and reflect the most recent relevant standards and supporting documents, including ASHRAE 90.1, and CASE reports. Mandatory minimum cooling tower (Tables 110.2)- were updated to the consensus standard accepted by ASHRAE 90.1-2010 TC 08.06 committee.
45-DAY	64171	Comment Letter from S-P Graveline of Sika Corporation 2012-03-12 TN-64171.pdf	140.3 and 141.0	(A) The CEC should adopt a 0.63 aged solar reflectance requirement for both new roofs and alterations because there is no scientific basis for distinguishing between them, there is no statistically significant difference in energy savings between 0.65 and 0.63, and making them the same may facilitate compliance.	Yes.	As explained in Response to Comment 6b (Docket No. 64149), the Commission changed the roof reflectance standard for new roofs to 0.63 to match the standard for alterations in response to these concerns.
45-DAY	64171		140.3 and 141.0	(B) The proposed requirement will cause significant disruption in the market place by having untested products rushed to market without proper long term testing, with a high risk of short service lives. (C) The CEC should allow insulation tradeoffs to apply to both new roofs and alterations, for the same reasons that the aged solar reflectance should be the same.	No/Yes	(B) The Energy Commission depends on the Cool Roof Rating Counsels directory of certified products for the solar reflectance and thermal emittance properties of a roof top, which helps ensure quality. Regarding ensuring that "untested products" are of sufficient quality, the Commission relies on the ASTM standards and on warranties set by the manufacturers for different years of service depending on the product. The comment does not provided any data to support the assertion that untested products will be enter the market or cause market disruption. The existing industry safeguards will continue to protect the industry. Therefore, no changes are necessary or proposed. (C) The Commission has made this change in 15-day language by applying the insulation tradeoff tables for aged 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 also changed to specify maximum U-factors. (See Payam Bozorgchami, Commission Staff Comment (Apr. 3, 2012), at p. 1, number 3.) The Commission further refined the table through an Errata adopted with the 2013 Building Standards to correct anomalies. (See Comment Letter from Associated Roofing Contractors of the Bay Area (Docket No. 65467, Comment No. 112a (May 25, 2012).)

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45-DAY	64216	Baltimore Aircoil Company Response to the 2013 Revisions to the CaliforniaBuilding Energy Efficiency Standards 2012-03-16 TN-64216.pdf	120.6	Requesting to lower the newly introduced minimum efficiency levels for the evaporative condensers in refrigeration systems, because they will cause a shift in the market away from evaporative condenser coolers, which are an inherently more efficient technology than air cooled condensers. In addition, air cooled condensers should not be permitted for ammonia condensing, because this will lead to an overall increase in energy use by condensers.	No	The efficiency levels specified for evaporative condensers 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 prefers to have a lower specific efficiency for evaporative condensers in this code cycle. This request would reduce the expected energy savings from the standards. This is further explained in greater detail in the document relied upon (see Doug Scott Responses to Evapco et al March RWH letters 02Apr12.docx for detailed response).
45-DAY	64231	EVAPCO Inc Comment 2012-03-08 TN-64231.pdf	120.6	Initial levels of efficiency for outdoor and indoor evaporator condensers too high	No	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 great detail in a document relied on.
45-DAY	64232	Howard Ahern Comment Letter 2012-03-20 TN-64232.pdf	150	Specific reference to outside application of protection and ellimination of acceptable products. Also included addition of Adhesive tape should be be permitted in insulation	Yes/No	Reference to outside condition was accepted, ellimianation of the products that could be used was not accepted as these are not intended to be exclusive of other materials or other possible solutions. Reference to Class 1 or Call ii vapor was included. Categorical exception to the use of adjesive tapes was not included as the manner of application of the protective system makes a differences as well as the type of adhesive tape. Clarifying language will be included in the compliance manual.
45-DAY	64233	Avery Kintner of Empowered Energy Solutions Comment Letter 2012-03-09 TN-64233.pdf	110.10	Provide an exception to Section 110.10(b)1A allowing a reduced solar zone area when it can be demonstrated that the projected need for solar is less than the minimum requirement for the solar zone or the home meets Title 24, Part 11, Tier 2 requirements and attains net zero energy performance through other renewable energy technology.	No	(1) The required solar zone is sized to accommodate 2 to 4 kW of photovoltaics (PV) based on currently available technology. Based on current estimates of typical appliance and plug loads, few homes would achieve net zero energy performance with less electricity than is generated by a 2 kW PV system. Therefore, no exception is appropriate. (2) Providing an exception to the Standards in Title 24, Part 6 merely for compliance with the voluntary provisions in Title 24, Part 11 is not appropriate. (3) The proposed (and adopted) Standards already contain exceptions to the solar ready requirements, for buildings which install either solar electric or solar water heating systems. Moreover, buildings utilizing other renewable energy technologies have the ability to request exemption from the solar ready requirements under several provisions in Title 24, Part 1, Chapter 10. Therefore, an additional exception is not needed.
45-DAY	64233		110.10	Provide an exception to Section 110.10(b)1A for homes served through Community Scale Renewable Energy facilities.	No	Current utility tariffs and interconnection policies result in a high degree of uncertainty for the viability of community scale renewable energy (CSRE) strategies. Because of the high degree of uncertainty, it was determined that CSRE strategies were not appropriate for inclusion in the solar ready requirements at this time.
45-DAY	64247	Hafsa Burt comments 2012-03-22 TN-64247pdf.pdf	NA	Comment supporting the standard	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64417	Spray Polyurethane Foam Alliances Comments 2012-03-09 TN-64417.pdf	RA3.5.1	RA3.5.1 Terminology: Voids & Air Spaces: The last sentence in this section is confusing.: "Voids occur when insulation depth is too shallow to provide the expected R-value and for the insulation to maintain contact with the assembly's air barrier." We recommend deleting this sentence.	Yes	The Commssion agrees with comment and the regulations have be changed accordingly.
45-DAY	64417		RA3.5.5.0.1a	Update misspelled words	Yes	The Commission agrees with comment and changes have made throughout document. Editorial changes also made to correct subsection headings.
45-DAY	64417		RA3.5.5.0.1b	Update misspelled words	Yes	The Commission agrees with comment and changes have made throughout document. Editorial changes also made to correct subsection headings.
45-DAY	64417		RA3.5.5.0.2	Suggestion to delete reference of HERS check for SPF in unvented attics	Yes	The Commission agrees and has made this suggested change.
45-DAY	64417		RA3.5.5.0.4 and	Suggestion to include reference to RA2 for all insulation systems.	Yes	The Commission has made changes to be consistent throughout RA3.5.
45-DAY	64417		RA3.5.5.1.4	Suggestion to delete word "voids".	Yes	The Commission agrees and has made this suggested change.
45-DAY	64417		RA3.5.5.1.5	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 be removed.
45-DAY	64417		RA3.5.4.1.9	Numbering of subsections is incorrect.	Yes	The Commission agrees and the numbering sequence for all sections throughout document have been corrected.
45-DAY	64417		RA3.5.5.2.3	Numbering of subsections is incorrect.	Yes	The Commission agrees and the numbering sequence for all sections throughout document have been corrected.
45-DAY	64417		RA3.5.5.2.3	Suggestion to delete building officials allowance for SPF to be used underside of the roofdeck.	Yes	The Commission agrees and reference to this has been removed.
45-DAY	64417		RA3.5.5.2.3	Suggestion to reword language referring to SPF in vented and unvented attics per the CBC requirements.	Yes	Commission agrees and has reworded this section to better conform to CBC language.
45-DAY	64417		Table 150.1A	Suggestion to include additional insulation combinations to required prescriptive U-factor and R-value table.	Yes	Commission has included insulation value of R13+5 and reference to U-factor ensures that any combination of insulation inside and outside the framed assembly are allowed to be used to meet the requirement.
45-DAY	64418	Farber Energy Designs Comments Building Energy Efficiency Standards 2012-03-23TN-64418.pdf	120.7	Comments to (1) eliminate required R-value for insulated sheathing on steel framing and (2) only reference R-values as opposed to U-factors.	No	(1) Proposed (and adopted) language is consistent with Chapter 5 of American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) Standard 90.2 and International Energy Conservation Code (IECC) Chapter 4 requirements regarding the need for insulated sheathing over steel framing. (2) U-factors allow greater flexibility in the choice of insulation type, insulation R-value and other components making up the assembly to achieve the required thermal performance.
45-DAY	64418		Section 140.3(a)5D:	With respect to prescriptive requirements for building envelopes, the method is not specified for deriving visible transmittance (VT) when glazing is not National Fenestration Rating Council (NFRC) certified.	No	The deriviation or formula of VT (visible transmittance) was moved to the Nonresidential Reference Appendix NA6 where it belongs next to deriviation of the U-factor and SHGC when fenestration products are not certified by NFRC. "VT shall be calculated according to Reference Nonresidential Appendix NA6."
45-DAY	64418		Tables 140.3-B and 140.3-C	METAL FRAME WALL INSULATION Issue: In the proposed Standards, rescriptive metal frame wall insulation requirements (U-factors for thermal transference and R-values for thermal resistance) are often greater for Nonresidential occupancies than for High-Rise Residential & Hotel/Motel (HRR/HM) occupancies, but they should be the same.	Yes	The Energy Commission has not changed the Prescriptive envelope U-factor for nonresidential and High-rise residential buildings, Table 140.3-B and C respectively. Differences in required envelope U-factors are the result of analyses appropriately using different prototype buildings and occupancy conditions.
45-DAY	64418		140.3(c)1	DAYLIGHT AREA REQUIREMENTS Use of term "or" at the end of 140.3(c)1.i. could be taken to mean that the 75% requirement cannot be met by combining Sidelit and Skylit areas.	Yes	Added the words "one or" to 140.3(c)1 to clarify that the requirement can be met by combining "one or more" of the Sidelit and Skylit areas, as the commenter proposed.
45-DAY	64418		140.3(c)1	DAYLIGHT AREA REQUIREMENTS Both the Sidelit daylit area definition and Skylit daylit area definition are incomplete. The proposed standards mention only Sidelit depth, not width.	No	The definitions are complete. For Sidelit Daylit Area, sidelight width is determined by an arch struck from the edges of the window; for Skylit Daylit Arfea, the total skylit daylit zone area definition states that it is identical to the shape of the rough opening of the skylight. Thus both definitions take width into account.
45-DAY	64418		100.1(b)	The comment proposed "ornamental" sconces as those that have a manufacturer's permanent label indicating a maximum lamp power of 7 watts, or for luminaires with ballasts, a maximum luminaire power of 9 watts.	No	It would be arbitrary to limit the maximum wattage of a sconce as proposed without a supporting rationale; no analysis was provided as to why the proposed wattages would be appropriate.
45-DAY	64418		140.6(c)3K	PRESCRIPTIVE REQUIREMENTS FOR INDOOR LIGHTING; ORNAMENTAL LIGHTING The proposed Standards do not explain how to calculate the task area of an ornamental light fixture. Propose allowing "ornamental" sconces to be used without counting their watts toward the Area Category maximum lighting power allowance	Yes	"The square footage of the floor area. .shall not include floor areas not having ornamental/special effects lighting".

45-DAY	64418		150.0(k)	The proposed standards for lighting in Residential Bathrooms have no provision for ceiling heat lamps allowing luminaires specifically designed for heat lamps as long as they are controlled by a timer switch with a maximum of 30 minutes on time.	No	The comment provided no supporting analysis to establish that this requirment would be cost effective, technically feasible, or energy-saving.
45-DAY	64418		150.1(c)1A	says more than once "... minimum ... R-vaues or U-factors ...". Issues: 1. U is for assembly; 2. U is maximum.	Yes	Commission agrees and the entire section has been rewritten in response to other comments and to increase clarity.
45-DAY	64418		150.2(a)	Res Additions and Alterations, proposed deleting EXCEPTION 2 to Section 150.2(a)	Yes	Commission agrees with comments and has modified proposed language.
45-DAY	64425	Extruded Polystyrene Foam Associations Comments 2012-03-26 TN-64425.pdf	100.1	Comment to modify definition of air barrier and remove the words "air tight" because air tight may not be achievable. May want to use air retarding.	Yes/No	The Commission agrees with the intent of the comments and has modified the definition for Air Tight to, "is a combination of interconnected materials and assemblies joined and sealed together to provide a continuous barrier to air leakage through the building envelope that separates conditioned from unconditioned space, or that separates adjoining conditioned spaces of different occupancies or uses.
45-DAY	64425		100.1	Comment to modify definition of thermal resistance.	No	Commission did not accept change as current language more closely matches that of ASRAE/IECC.
45-DAY	64425		110.8(g)	Comment to modify requirements for slab insulation.	No	Commission did not accept comments as this would increase the stringency of the proposed requirements without having the benefit of public review and cost effectiveness analysis.
45-DAY	64425		def., 120.7	Comment to modify requirements regarding roof/ceiling insulation.	Yes	Commission agrees with general comments and has modified proposed language; however, the Commission did not replace "roof/ceiling" insulation with "roof" as the current language is more encompassing of all conditions exhibited by nonresidential construction. XPSA's comment regarding floor insulation does not apply as the requirement does not apply to slab floors.
45-DAY	64425		def.,140.3(a)4	Comment to modify typo in proposed language.	yes	Commission agrees to comments.
45-DAY	64425		140.3(a)7	Suggest adding the word "opaque" to the body of the sentence when setting a requirement for the Opaque Exterior doors. The commenter wants the commission to start the sentence with, "All opaque exterior doors…"	Yes/No	Commission agrees with the intent of the comment, but has decided to remove all references to opaque from this section because the term is ambiguous.
45-DAY	64425		140.3(a)9	Current language in 140.3 (a) 9.B. regarding Air barrier could be interpreted as applying to fenestration and opaque exterior doors, but openable fenestration cannot achieve the performance requirements of 140.3 (a) 9.B.	No	The Standards are based in part on chapter 4 of the 2012 IECC and ASHRAE Standards 90.1 2010-P. The requirements for air leakage for fenestration and doors are specified in Section 110.6(a)1 of the Standards.
45-DAY	64425		Table 140.3-B & C	Comment to add "U-factor."	Yes	Commission agrees with comments.
45-DAY	64425		150.0(d)	Comment to modify requirement for raised floor insulation.	Yes	Commission agrees with comments.
45-DAY	64425		JA4	Suggestion to add additional columns for insulated sheathing.	Yes	Commission agrees with comments.
45-DAY	64425		JA4	Suggestion to add R5 and R12 insulated sheathing as additional columns	Yes	The Commission agrees with comments; additionally the Commission is developing a assembly calculator that will be made available to the public.
45-DAY	64459	Energy_Commission_Letter_in_response_to_AHRI_Comments_on_Residential_Zoned_AC_TN-64459.pdf	general	Letter from Energy Commission staff to AHRI in response to AHRI's comments on residential zoned air-conditioning and HVAC systems.	N/A	This is an Energy Commission staff document docketed 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	64463	AVERY_Comments_on_the_Proposed_CAL_Green_Code_Update_for_Consideration_TN-64463.pdf	support	The increased efficiency of new housing stock due to the proposed standards will further differentiate new homes from existing, less efficient older homes. Over time this will drive the existing housing market to embrace energy efficiency retrofits to reduce their cost of ownership and increase their marketability.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64549	National_Electrical_Manufacturers_Association_Comments_TN-64549.pdf	definitions and 110.9 and 130(c)	Definitions related to dimmers is not consistent between Section 100.0 and JA-1. Also suggested changes in 110.9 and Table 150.0A.	Yes	All of these comments were agreed to and taken care of during a conference call with the commentor. Definitions in 100.0 and JA1 were made consistent. Change to 110.9 was updated. Change to 130.0 (c) was made. Change to table 150.0A was made too.
45-DAY	64561	California Association of Sheet Metal and Air Conditioning Contractors NationalAssociation Comment Letter 2012-04-02 TN-64561.pdf	140.9(b)(1)A	(1) short circuit hoods for kitchen ventilation should not be prohibited, (2) the life-cycle cost analysis presented arbitrarily sets the exhaust from short-circuit hood as double that of non-short-circuit resulting in prohibiting short-circuit hoods in kitchen ventilation.	No	The short-circuit hood is not prohibited by the code language - despite the acknowledgement by the commenter that short-circuit hoods waste energy. The proposed code language is within the prescriptive method compliance process where the overall energy budget is calculated based on a system with non-short circuit hoods. Therefore, a short circuit hood may still be installed, if the building designer addresses the energy use through other, more efficient design features to meet the required energy budget. The reduction in energy use from avoiding short-circuit hoods was shown to be cost effective in the CASE report. (2) The cost benefit analysis presented in the CASE report used the data from the survey sample. There is no evidence presented to dispute the data used by the CASE study.
45-DAY	64561		140.9(b)(2)	This comment states that the "available transfer air" requirements would disrupt the balance between preparation and dining areas of commercial kitchen.		The regulations will reduce energy waste associated the high make-up air requirements within the food preparation area by allowing more conditioned air from dining areas. See section 140.9(b)2. The CASE report demostrated the energy savings as cost effective. The exception for the dining spaces where demand control ventilation is used avoids any potential for pressure imbalances between zones, or control issues. Furthermore, this prescriptive requirement may be avoided altogether by using the performance approach.
45-DAY	64562	WattStoppers Comments 2012-04-03 TN-64562.pdf	130.1(b)4	Note: the section commented upon was changed to Section 130.1(b)3 in the 15-Day Language and the resulting adopted standards. The comment stated that the requirement to select one or more of the mandatory lighting controls in a menu of options adds little value, aside from implying that occupancy sensors and time scheduling aren't acceptable methods for complying with the multi-level lighting control requirements. The comment recommended deleting the entire list.	No	The standards ***do not*** preclude the use of occupancy sensors or time scheduling, which are already required to comply with the shut-off requirements in Section 130.1(c).
45-DAY	64562		130.1(c)2	The commenter disagreed with disallowing countdown timers for compliance with the automatic shut-OFF control requirements, and recommends striking the language in its entirety, or allow countdown switches in additional applications.	Yes/No	Automatic lighting shut-off controls have been required by the Standards for many years, and the Standards have never recognized countdown timers for compliance with the automatic lighting shut-off control requirements. The Standards add express language clarifying the disallowance because of the propagation of misinformation suggesting that countdown timers could be used for compliance. Based upon telephone discusions with this stakeholder by staff, the regulations allow countdown timers for compliance in single stall bathrooms, closets, and server aisles.
45-DAY	64562		130.1(d)1	The commenter stated that definitions section is where most definitions are located, and that putting the definitions for Daylit Zones in Section 130.1(d)1 interrupts the text flow, and makes it hard to read. The commenter recommended moving the definitions to Section 130.1(d)2Dii.	No	Because Daylit Zone definitions include performance specifications, they are more complex than typical, and they are not appropriate to put into Section 100.1(d), where **typical** other definitions reside. Therefore, definitions for Daylit Zones have resided in Section 140.6 in previous versions of the Standards.
45-DAY	64562		130.1(d)2Dii	The commenter stated that it is not appropriate to require continuous dimming for all daylighting controls.	No	The commenter language does not require dimming, but clarifies that dimming, in addition to other multi-level control methods, is appropriate for compliance with the daylighting control requirements.
45-DAY	64562		130.1(d)	The commenter asserted that the requirement for installing Automatic Daylighting Controls in a 120W zone of secondary daylighting is not cost effective, and recommended deleting the entire section.	NO	The record establishes that this prescriptive requirement is cost effective: for controlling 120 watts of lighting, the control costs $350 to purchase and install, and will save $38.40 in electricity costs annually, resulting in a net positive return over the life of the building.

45-DAY	64562		150.0(k)7	In the proposed (and adopted) Standards, EXCEPTION 1 to Section 150.0(k)7 states that luminaires: in closets less than 70 square feet are not required to be high efficacy 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 closets.	NO	Neither the comment nor anything else in the record established that it is cost effective to require such controls in closets smaller than 70 square feet.
45-DAY	64571	2012-04-03_Payam_Bozorgchami_TN-64571.pdf	140.3(a)	Letter from Energy Commission staff in response to concerns raised by the roofing industry on the cool roofs proposal.	N/A	This is an Energy Commission staff document docketed 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	64577	California Building Industry Association Comments 2012-03-28 TN-64577.pdf	150.1	Comment that the roof deck insulation requirement in the proposed Standards is not cost effective and could result in moisture concerns.	yes	The Energy Commission agrees and the prescriptive requirement for roof deck insulation has been removed.
45-DAY	64577		stringency, whole house fan and roof deck insulation	CBIA asserted that the building industry does not have sufficient time to determine how to comply with the proposed stanards 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 Commission withdrew some of the proposed requirements to drop the level of stringency to below 25% as CBIA requested (including roof-deck insulation requirement). The standards as adopted also provide additional insulation credit in some climate zones to lower the estimated compliance cost to address the CBIA's concerns.
45-DAY	64577		150.0(j)4	Concern on the length restriction for 1 inch pipe	Yes	The proposed length limt for 1 inch pipe was withdrawn.
45-DAY	64577		110.10	Buildings utilizing whole house fans may not be able to meet the requirement that roofs have a 250 square foot solar-ready zone, because additional attic and roof vents will be needed to accommodate the whole house fans.	Yes	EXCEPTION 4 to Section 110.10(b)1A was added; it allows for a 150 square foot solar zone for single family residences that (a) are located in climate zones 8-14 and located in a Wildland-Urban Interface Fire Area as defined in Title 24, Part 2; and (b) have a whole house fan. These are the circumstances in which a 250 square foot zone would be most problematic.
45-DAY	64595	Email_from_Stanford-J_Stagner_TN-64595.pdf	141.0(b)1.I.ii.b	(Note: the number of the commented-upon section was changed to 141.0(b)2I(ii)(a)1 in the 15-Day Language.) excluding the term "simple lamp and/or ballast replacements" 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 re-ballasting 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 modificaiton-in-place. There is no evidence that this revised language will discouraging group re-ballasting projects.
45-DAY	64596	National Electrical Manufacturers Association Comments Amended 2012-04-03TN-64596.pdf	100.1	The commenter recommended modifications to four of the new Lighting Controls definitions, and one change to Section 110.9, to make those provisions consistent with language in the Title 20 Appliance Efficiency Regulations, and consistent with the lighting control requirements in Section 130.1	Yes	The definitons have been modified as recommended.
45-DAY	64596		110.9(b)(4)	The commenter recommended adding requirements for Partial-On and Partial-Off occupancy sensors consistent with language in the Title 20 Appliance Efficiency Regulations, and consistent with the lighting control requirements in Sections 130.1, and 140.6 of Part 6.	Yes	The language has been added to Section 110.9(b)4 as recommended
45-DAY	64596		130.2(c)	More flexibility in solutions to meet–the requirements for lighting controls on outdoor lighting mounted at 24 feet or less.	Yes	Working with the commenter and other stakeholders, the Commission modified the language in Section 130.2(c) 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-DAY	64596		Section 150(k)	The commenters recommended that Table 150.0-A be modified to remove restrictions on compact fluorescent lamps in GU-24 based recessed downlight fixtures, by deleting the words, "which are not recessed luminaires."	Yes	The commenter was the primary advocate in the previous proceeding that adopted the current restriction, which recommended that compact fluorescent lamps not be allowed in GU-24 based recessed downlight fixtures, because of concern about premature heat failures. -Based on this comment from luminaire manufacturers that premature heat failure is no longer a risk, the restrictions were removed.
45-DAY	64596		130.0 (c)	Modify language to expand the use of peel-down wattage labels when such labels are used to determine luminaire input power.	Yes	Existing standards limit the use of peel down labels for use in determining luminaire input power because such lables were unreliable. The Energy Commission agrees with NEMA to allow peel down labels to be used under limitied conditions which will assure reliability.
45-DAY	64602	J Coogan for Siemens Comments 2012-04-05 TN-64602.pdf	140.9(c)	The comment suggests that the regulation should state that "Variable exhaust and makeup airflow shall be coordinated to achieve the required space pressurization at varied levels of demand and fan system capacity." Zone pressure imbalances may occur unless the exhaust and make-up air streams are balanced at several flow levels, up to fan full capacity.	Yes	As suggested by this comment, 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 imbalances.
45-DAY	64611	CAL_SMACNA_Comments_re_Title_24_-_Data_Registry_TN-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 standards language would require permit documents 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-DAY	64611		10-103[a][1][D]	The commenter recommended exluding HERS providers from the requirements for Nonresidential Data Registries, for the reason described in the response to Comment 78a, immediately above.	yes	The Commission accepted the recommended change.
45-DAY	64612	CAL_SMACNAs_Comments_re_Title_24-Data_Registry_TN-64612.pdf	10-102, 10-103[a][1][D]	This comment is a duplicate of comment docketed at 64611.	Yes	The Commission responds as it did to Comment 64611.
45-DAY	64622	VELUX America Incs Comments 2012-04-06 TN-64622.pdf	EXCEPTION 2 to Section 150.1(c)3A:	Velux Suggested language to change Exception 2 to Section 150.1(c)3A and Exception 2 to Section 150.2(b)1A regarding skylight area limitation from 10 sf to 16 sf.	Yes	Velux suggetion was to increase the area from 10 to 16 sf for a more common and realistic skylight size. Changes were made to reflect suggested language.
45-DAY	64622		EXCEPTION 2 to Section 150.2(b)1A:	Velux suggested EXCEPTION 2 to Section 150.2(b)1A: Up to 16 square feet of skylight area with a maximum U-factor of 0.55 and a maximum of SHGC 0.30 are permitted to be used in any alteration.	NO	Velux suggetion was to increase the area from 10 to 16 sf for a more common and realistic skylight size. Changes were made to reflect suggested language.
45-DAY	64622		EXCEPTION 2 to Section 150.2(b)1B:	Similar response: Velux suggested EXCEPTION 2 to Section 150.2(b)1A: Up to 16 square feet of skylight area with a maximum U-factor of 0.55 and a maximum ofSHGC 0.30 are permitted to be used in any alteration.	NO	Velux suggetion was to increase the area from 10 to 16 sf for a more common and realistic skylight size. Changes were made to reflect suggested language.
45-DAY	64622		10-102	Editorial -Suggested to move fenestration related definitions under the fenestration group heading.	YES	This was done for the 45 day language .

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45-DAY	64622		100.1	Editorial -Suggested to move fenestration related definitions under the fenestration group heading.	YES	This was done for the 45 day language .
45-DAY	64622		110.6	Editorial Suggested a third Exception to cover skylight not covered by NFRC 200.	NO	Exception 1 to Section 110.6(a)2 has already similar wording. No need to create a third Exception.
45-DAY	64622	VELUX America Incs Comments 2012-04-06 TN-64622.pdf	For Tables 110.6-A and 110.6-B,	Velux suggested addition of double-pane products that use Argon-filled IGU and low Solar Gain Low-e Coatings to Table 110.6-A and Table 110.6-B.	NO	Table 110.6-A and Table 110.6-B are default values for for worst case scenario. The suggested fenestration IGU are products that can be certified by NFRC. We encourage these products to be certified rather than defaulting to the worst case values.
45-DAY	64650	Comments_from_the_Center_for_the_Polyurethanes_Industry_TN-64650.pdf	150.1(c)1	CPI opposes changes to the proposed wall insulation values in Table 150.1-A because they could reduce the availability of choices for woodframe walls in the marketplace. CPI recommends R-values of R-13+5ci and R-19+R-5ci to correspond to the climate zones currently in California.	Yes	The Energy Commission agrees with the comments from CPI. Changes have been made that better describe insulation R-values and U-factors that allow a wider choice of materials to meet the requirements by inclusion of insulation descriptors of R-13+5 and R-15+4, and removing the description for R-21.nts.
45-DAY	64651	Trouble Free Skylights Comments 2012-04-09 TN-64651.pdf	150.2(b)1B	Trouble Free Skylights states that the new 2013 Energy Code efficiency requirements of Skylights' U-factor of 0.32 and SHGC of 0.25 will greatly reduce the replacement of old existing structures for new skylights. In addition, skylights excludes most of the known technologies currently employed by Energy Star compliant skylights. Suggest to use Energy Star Requirements in Exception 2 to Section 150.2(b)1B. Further the new efficiencies will reduce any benefits that skylights can bring such as reduction of electric usage for lighting and ventilation.	No	In the new 2013 Energy Code, new allowances were added to softened up the stricter efficiency changes. The prosed new change in Exception 2 to Section 150.2(b)1A will allow skylight area up to 16 sf to use a U-factor of 0.55 and SHGC of 0.30 instead of 0.32/0.25 new requirement Further, in Exception 2 to Section 150.2(b)1B allows all replaced existing skylights with new skylights with no area limitation to use U-factor of 0.55 and SHGC of 0.30.
45-DAY	64653	Velux_America_Written_Comments_TN-64653.pdf	150.2(b)1B	Velux America of SF Bay Skylights suggests that the new 2013 Energy Code efficiency requirements of Skylights' U-factor of 0.32 and SHGC of 0.25 will greatly reduce the replacement of old, existing, inefficient skylights with new, energy efficient skylights, and result in losing benefits of skylights such as reduced electricity use for lighting and ventilation. The standards are more stringent than most of the known technologies currently employed by Energy Star compliant skylights. An Exception 2 to Section 150.2(b)1 should be adopted to allow replacement of existing skylights with those meeting Energy Star standards.	No	The prosed new change in Exception 2 to Section 150.2(b)1A will allow skylight area up to 16 sf to use a U-factor of 0.55 and SHGC of 0.30 instead of 0.32/0.25 new requirement Further, Exception 2 to Section 150.2(b)1B allows all replaced existing skylights with new skylights with no area limitation to use U-factor of 0.55 and SHGC of 0.30.
45-DAY	64655	Sunsational Skylights Comments 2012-04-09 TN-64655.pdf	150.2(b)1B	Sunsentional Skylight comments are the same as Docket #64653 as indicated above.	No	Sunsentional Skylights Response to the Response is the same as Docket #64653 as indicated above.
45-DAY	64657	California_Energy_Efficiency_Council_Comments_TN-64657.pdf	N/A	The California Energy Efficiency Council supports the 2013 Building Energy Efficiency Standards.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64658	California Skylights Comments 2012-04-09 TN-64658.pdf	150.2(b)1B	California Skylights comments are the same as Docket #64653 as indicated above.	No	California Skylights Responce to the Response is the same as Docket #64653 as indicated above.
45-DAY	64660	Silicon_Valley_Comments_TN-64660.pdf	N/A	Silicon Valley Leadership Group supports the Title 24, Part 6 Rulemaking.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64661	Freelite Skylights Comments 2012-04-09 TN-64661.pdf	150.2(b)1B	Freelite Skylights comments are the same as Docket #64653 as indicated above.	No	Freelite Skylights Responce to the Response is the same as Docket #64653 as indicated above.
45-DAY	64663	Global_Cool_Cities_Alliance_Comments_TN-64663.pdf	140.3, 141.0	Global Cool Cities Alliance supports the standards, particularly the Non Residential Prescriptive Envelope (section 140.3) and the Non Residential Additions, Alterations, and Repairs (section 141.0)	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64664	Chet's Tubular Skylights Comments 2012-04-09 TN-64664.pdf	150.2(b)1B	Chet's Tubular Skylights asserted that it would take 5-7 years to meet the efficiencies for new skylights that the proposed Standards would require. The commenter recommended keeping the efficiency requirements in the existing Standards.	No	In response to this and other comments, and other evidence in the record, allowances were added to relax the regulations. EXCEPTION 1 to Section 150.1(c)3A allows "up to 3 square foot of new tubular skylights area with dual-pane diffusers shall not be required to meet the U-factor and SHGC requirements of TABLE 150.1-A." Replacement skylights are not subject to an area limitation, and are required to meet a U-factor of 0.55 and SHGC of 0.30.
45-DAY	64665	Green Construction Service Comments 2012-04-09 TN-64665.pdf	150.2(b)1B	Green Construction Service comments are the same as Docket #64653 as indicated above.	No	Green Construction Service Responce to the comment is the same as Docket #64653.
45-DAY	64666	G Rodriguez VELUX America Inc Comments 2012-04-09 TN-64666.pdf	150.2(b)1B	G. Rodriguez comments are the same as Docket #64653 as indicated above	No	G. Rodriguez Response to the comment is the same as Docket #64653.
45-DAY	64667	Steve Kent VELUX America Inc Comments 2012-04-09 TN-64667.pdf	150.2(b)1B	Steve Kent Velux Skylights comment are the same as in Docket #64653.	No	Steve Kent Velux Skylights response to the comment is the same as Docket #64653.
45-DAY	64668	Tile_Roofing_Institute_Comments_TN-64668.pdf	EXCEPTION TO 150.2(b)1Hi	The commenter suggests revising Exception to 150.2(b)1H(i)(a), which requires an actual air-space of 1.0 inch between the top of the roof deck to the bottom of the batten to allow free air movement. The commenter has provided information supporting proposed language for exceptions for profiled roof tops.	Yes	The Energy Commission agrees and made the requested change.
45-DAY	64670	Naturalight Solar Inc Comments 2012-04-10 TN-64670.pdf	150.2(b)1B	G. Rodriguez comments are the same as Docket #64653 as indicated	No	G Rodrigues response to the Response is the same as Docket #64653.
45-DAY	64671	Window and Door Manufacturers Association Comments 2012-04-09 TN-64671.pdf	150.2 (b) 1 B	Response to the comment is the same as Docket #64653.	No	Response to the comment is the same as Docket #64653.
45-DAY	64673	AHRI Comments on Commercial Refrigeration 2012-04-10 TN-64673.pdf	120.6(b)3.B:	The commenter stated that requiring doors in supply cases with 5F^{D} or lower supply air temperature with the federal appliance regulation on display cases.	Yes	The specific item requiring that doors with 5F or lower supply air temperature have glass doors was removed.
45-DAY	64674	AHRI Comments on Fractional HVAC Motors for Fans 2012-04-10 TN-64674.pdf	140.4(c)4	AHRI states that the proposed code language should consider (1) all loading conditions, not just full-load conditions, for fractional horsepower motors, (2) add exception to belt-driven motors with sheave adjustment as alternative.	Partially	(1) The proposed language was not changed to accommodate all operating conditions because the NEMA standards and published motor rating system are available widely only at full load rating conditions. (2) The language was added to provide the sheave adjustment as alternate means of achieving compliance with this section 140.4 (c).

45-DAY	64675	AHRI Comments on Air-handling Units and Joint Appendix JA9 2012-04-10TN-64675.pdf	110.2(f)	The commenter claimed that the requirement for certification to the Energy Commission, in order for low leakage air handling units ("LLAHU") 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 LLAHU compliance credit is already in the current regulations (Residential ACM Section 3.12.5, and Residential Appendix Section RA3.1.4.3.10), and no additional or more stringent requirements are proposed for 2013; thus the basic requirement does not require vetting again for the 2013 standards.
45-DAY	64675		JA9	The commenter proposed clarification of 110.2(f) to explicitly state that the qualifications for Low-Leakage Air Handling Units (LLAHUs) are used for the compliance credit available in the performance compliance method.	yes	Agreed with proposed clarification. Proposed 15-day language: 110.2(f) Low Leakage Air-Handling Units. To qualify as a low leakage air-handling unit for use in meeting the requirements for applicable low leakage air-handling unit compliance credit(s) available in the performance standards set forth in Sections 150.1(b) and 140.1, the manufacturer shall certify to the Energy Commission that the air-handling unit meets the specifications in Reference Joint Appendix JA9. Similar language was incorporated into JA9.
45-DAY	64675		JA9	The commenter claimed the 1.4% maximum leakage rate qualification criterion givern in Reference Joint Appendix JA9 was too stringent and should be changed to 2%.	no	The value in JA9: (1.4% leakage rate at ASHRAE Standard 193 test pressure of 0.5 inch water coulmn) is equivalent to the leakage rate in the 2008 CA Standards (2% maximum leakage at 1.0 inches water column). See staff letter docket number TN-65194 that provides the derivation.
45-DAY	64676	AHRI_Comments_on_Residential_Zoned_Air_Conditioning_TN-64676.pdf	150.0(m)14.	Bypass ducts in zonal HVAC systems should be allowed	Yes	15 Day Language withdraws the mandatory prohibition of bypass ducts in zonal HVAC systems. No bypass ducts are a prescriptive requirement, but bypass ducts can be included in the performance approach with the appropriate efficiency penalty.
45-DAY	64677	AHRI Comments on Design and Control Requirements for Quantities of Outdoor Air2012-04-11 TN-64677.pdf	120.1(e)	The commenter objected to the inclusion of 10% limit under section 120.1(e)2 for variable air volume systems and under section 120.1(e)3 for constant volume systems claiming that this 10% limit is too stringent for field verification.	No	The demand control ventilation ("DCV") and outdoor air requirements in Section 120.1(e) cost-effectively enhance occupant safety, control of odors, and removal of contaminants.
45-DAY	64678	AHRI Comments on Drive Mechanism 2012-04-11 TN-64678.pdf	140.4(c)4:	The commenter stated that section 140.4(e)4B overly limits damper linkage ., instead of ensuring adequate linkage operation in various conditions.	Yes	The wording was revised to require manufacturer certfication that linkage devices can operate at up to 60000 cycles.
45-DAY	64679	Institute of Heating and Air Conditioning Industries Comments 2012-04-10TN-64679.pdf	***	The comment asks for several clarification of the terms and applicability of licensed contract professionals.	Yes, clarification	The revision clarifies that the acceptance testing can be performed by any professional who qualifies under the Division 3 of the Business and Professional Code established by the California Buildings Standards Commission (CBSC). The defintion of "new construction" was reworded to cover both "newly Constructed building" and any additions/alterations that are significant (as established by section 141) to be considered as newly constructed buildings.
45-DAY	64679		***	The commenter proposed, for ventilation systems: (1) an exemption for ductless systems; (2)~~.~~ Ventilation minimum unit capacity revised and consistent,, and to apply by capacity; and (3) change requirement to 5-yr manufacturers' warranty on economizer assembly.	Yes	(1) Ventilation wording expanded to give exemptions to ductless systems~~.~~ : (2) Minimum qualifications were revised to apply by capacity. (3) The language under section 140.4b4(A) was revised to 5-year manufacturer's warranty as noted by the commenter.
45-Day	64679		150.0(m)12D	Although the regulation language in 150.0(m)12D (page 252 in 45-day language) specifies labeling is the responsibility of the manufacturer, IHACI is requesting confirmation that under no circumstances will the contractor be held responsible for labeling [air filter products].	n/a	The regulations are explicit that labeling of air filter products shall be "labeled by the manufacturer". No further action is necessary.
45-DAY	64679		***	Oppose prescriptive requirement for whole house fans	No	Whole house fans are a cost-effective option for cooling in the climate zones where they are now required
45-DAY	64679		***	Oppose prescriptive requirement for whole house fans	No	Whole house fans are a cost-effective option for cooling in the climate zones where they are now required
45-DAY	64679		10-103(a)1.	Contractors should be able to complete the design review requirements	Yes	The original language was based on the public stakeholder process for the CASE study (2013_CASE_Design_Phase_Cx.pdf). This revision to the 15-day language now allows contractors as well as Design Engineer at the same level of responsibility established by the CSBC Business and Professional Code. Added this to 15 Day Language: "Contractors accepting the responsibilities of the engineer under the provisions of the Business and Professions Code may also complete and sign these certificates."
45-DAY	64679		120.1(e)	Ductless systems should be exempt from the requirement for dynamic control of outside air flow rates 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.
45-DAY	64679		120.2(i)	Only a single economizer manufacturer satisfies this requirement	No	Multiple economizer manufacturers satisfy this requirement
45-DAY	64679		120.2(i) and 140.4(e)4.	The economizer FDD requirements are for HVAC equipment 5 tons and greater, but the other economizer requirements are for HVAC requirements 4 tons and greater - commenter thinks the Standards should be consistent in terms of HVAC equipment size	No	the new economizer FDD 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
45-DAY	64679		140.4(e)4.	Economizer warranty language is vague and does not specify that it is a *manufacturer* warranty that is required	Yes	15 Day Language clarified that the warranty is a manufacturer warranty
45-DAY	64679		150.0(m)14.	Opposes mandatory prohibition of bypass ducts	Yes	No bypass ducts is now the prescriptive requirement but not a mandatory requirement
45-DAY	64679		120.1(e)	Ductless systems should be exempt from the requirement for dynamic control of outside air flow rates 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.
45-DAY	64679		120.2(i)	Only a single economizer manufacturer satisfies this requirement	No	Multiple economizer manufacturers satisfy this requirement
45-DAY	64679		120.2(i) and 140.4(e)4.	The economizer FDD requirements are for HVAC equipment 5 tons and greater, but the other economizer requirements are for HVAC requirements 4 tons and greater - commenter thinks the Standards should be consistent in terms of HVAC equipment size	No	The new economizer FDD 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
45-DAY	64679		140.4(e)4.	Economizer warranty language is vague and does not specify that it is a *manufacturer* warranty that is required	Yes	15 Day Language clarified that the warranty is a manufacturer warranty
45-DAY	64679		150.0(m)14.	Opposes mandatory prohibition of bypass ducts	Yes	No bypass ducts is now the prescriptive requirement but not a mandatory requirement
45-DAY	64680	PGandE, SCE, and SDGandE, I	120.6 / NA7 100.1/NA7	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 did accept the recommendation to provide two options to meet the trim requirement. We added an exception to these requirements for existing centrifugal 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 test requirements for compressed air systems.
45-DAY	64680		120.6 / NA7 100.1/NA7	Refinements to the code should be added to allow two options for compliance demonstration.	Yes	Commission agreed.
45-DAY	64680		120.6 / NA7 100.1/NA7	Exemtion should be provided for centrifugal compressor systems from both the trim and control requirements.	Partially	The Commission added an exception to these requirements for existing centrifugal compressor systems.

45-DAY	64680	Pounds_SCE_and_SDGandE_Joint_Comments_TN-64680.pdf	120.6 / NA7 100.1/NA7	Exemption should be provided for remotely located compressor system.	No	The Commission found no technical or econom reasons to exempt remote compressor system.
45-DAY	64680		120.6 / NA7 100.1/NA7	Exemptions 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 100% of capacity.
45-DAY	64680		120.6 / NA7 100.1/NA7	Inclusion of a factor of 1.25 to determine the upsizing for simplications of compliance demonstration.	Yes	Commission agreed.
45-DAY	64680		120.6 / NA7 100.1/NA7	Commenter suggests minor changes to the definitions and accptance test.	Yes	The comments were accepted and the minor changes were made to the definitions and acceptance test requirements for compressed air systems.
45-DAY	64681	Distributed Energy Consumer Advocates Comments 2012-04-11 TN-64681.pdf	110.10	The commenter asserted 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 solar thermal and photovoltaic systems.	No	Installation of mounting hardware was not explicitly consided 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.
45-DAY	64682	NAIMA_Comments_TN-64682.pdf	140.3	The commenter supports the mandatory minimum insulation levels for non-residential construction and the trade-offs for additions and alterations and the proposed tradeoffs that allow non-"cool roof" materials to be used with greater insulation levels.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64682			The commenter supports the proposed revision to the residential energy efficiency requirements, specifically the new roof deck insulation requirements.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64682			The commenter supports the R4 exterior insulation requirement and the R15/R21 wall requirements.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64682		120.7, 140.3, 150.0, 150.1	NAIMA supports the increased duct and pipe insulation levels but also recommends upgrading the duct insulation requirements to R8 for all ducts in unconditioned space, as one requirement statewide will make code enforcement easier, supply simpler, and save more energy. An R-8 requirement is also consistent with the International Energy Conservation Code.	No	The Energy Commission agrees that a single R-value requirement is simpler for enforcement and can help the product supply communtiy but does not support increasing the R-value for residential duct insulation across all 16 climate zones as this was not found to be cost effective in all cases
45-DAY	64688	IALD Comments in Reference to Lighting 2012-04-09 2012-04-09 TN-64688.pdf	10-114	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") Lighting Zones. Exterior lighting allowances in California vary by Lighting Zones (LZ). Lighting Zones can be determined utilizing the U.S. 2000 Census Map. Comments: We often find that people have questions regarding how to determine a lighting zone for a specific project and don't know where to look. We recommend including direction, 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 location could be provided within the language.	No	There are already detailed recommended directions in the Nonresidential Compliance Manual, in the Outdoor Lighting Chapter. Standards are not the appropriate place to include directions.
45-DAY	64688		100.1	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") Definition of IES Lighting Handbook: IESNA actually refers to the "Illuminating Engineering Society of North America", not "National Association". The handbook is also not just specific to North America so the society should be referenced in its complete form. Also, the copyright of the book is dated 2011.	Yes	Language has been corrected as recommended
45-DAY	64688		100.1	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") The word "SCONCE" should not be all capitalized to be consistent with formatting conventions in that section	Yes	Language has been corrected as recommended
45-DAY	64688		100.1	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") Recommends moving the definition of "Landscape Lighting" to the sub-group identified as "LIGHTING definitions"	Yes	Language has been corrected as recommended
45-DAY	64688		110.9(f)2	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") Lamp/ballast manufacturers have made great strides in developing lamp/ballast systems that deliver the same light output as previous 1.0 BF ballasts utilizing a 0.71 BF ballast. We are concerned that requiring a 0.90 BF eliminates 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 appplications.
45-DAY	64688		130.0 (c)6Bi	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") Language incorrectly reads, "The wattage of the lamp/ballast combination determined in accordance with Section 130.0(c)2A…" This language references portion of the code that does not exist "(130.0 (c)2A)." We believe it is supposed to direct someone to compliance with Section "130.0 (c)1A."	Yes	Language has been corrected as recommended.
45-DAY	64688		130.0 (c)6Biii	Note: this document has been mistitled in the docket as LEED. It should have been called "IALD." Commenter says that revised language for labeling of luminaires when such labels are used to establish luminaire input power is redundantly stated in several subsections of the standards.	Yes	The entire subsection has been edited and the reduncancy no longer exists.
45-DAY	64688		130.0 (c)6B	Note: this document has been mistitled in the docket as LEED. It should have been called "IALD." Commenter says 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 averaging 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 peel-down labeling requirements, in consultation with the National Electrical Manufacturers Association.
45-DAY	64688		Table 140.6-C	(Note: this document has been mistitled in the docket as LEED. It should have been called "IALD.") The section deals with lighting allowances in various areas. As written, the proposed standard (in footnote 1) provides an additional allowance for specialized task work. We recommend also applying footnote #3, which provides an additional allowance for ornamental lighting, to lobbies. 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.

45-DAY	64689	Danfoss Comments Regarding Overridable Communicating Thermostats 2012-04-11TN-64689.pdf	110.2.(c), JA5	(1) Thermostats are on-off devices and not compatible with variable speed HVAC systems. (2) Occupant controlled smart thermostat default setpoint offsets of +/- 4 degrees are not compatible with variable speed HVAC systems.	No	Thermostats are not limited to on-off devices. Moreover, there will be a discussion of thermostat functionality in the residential and nonresidential compliance manuals. (2) The setpoint offsets represent a performance requirement that can be met with other control strategies to transition from the original setpoint to the offset adjusted setpoint. An example is if, in response to a demand response signal, a control algorithm is initiated which uses information about the duration of the demand response period to set a variable speed HVAC system to a lower energy mode which would allow the temperature to gradually rise the predetermined number of degrees (+4 degrees by default in cooling mode) during the demand response period. This is only one example of an alternative control strategy that could meet the event response requirements.
45-DAY	64691	Cellulose Insulation Manufacturers Association Comment Letter 2012-04-10TN-64691.pdf	table 150.1A	The commenter opposed proposed revisions to table 150.1A that increases the prescriptive requirement for wood frame cavity wall insulation from R13 to R15+4ci in California Climate Zones (CCZ) 2-10 and from R19 to R21+4ci in CCZ 1 and 11-16	Yes	The adopted standards contain the following changes:residential prescriptive wall R-value requirements as R15+4 or R13+5 with an equivalent U-value for all CCZ. In the Mandatory measures section , Section 150.0(c)2 a requirement is set for 2x6 framing or greater to have insulation not less than R-19.
45-DAY	64692	AHRI_Additional_Comments_on_Draft_Title_24_TN-64692.pdf	100.1	Commercial Boiler defnition needs to be consistent with Federal efficiency standards	Yes	Definition has been fixed, as recommended, in the 15 day language.
45-DAY	64692		120.9(a)	Commercial boilers do not typically use parallel positioning control to minimize NOx emissions	No	This statement is not accurate. According to the Energy Commission's appliance database, there are at least 968 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 17 different manufacturers (see the database at http://www.appliances.energy.ca.gov). Regardless, Commission has added an exception from this requirement for higher thermal efficiency commercial boilers.
45-DAY	64692		150	(1) External WH insulation conflicts with federal law; (2) vent pipe requirement vague and restrictive; (3) gas supply line requirement unnecessarily restrictive.		(1) This requirement was not listed as a measure to be considered for modification in the 2013 code cycle. With no analysis of the energy and environmental impacts this measure cannot be changed. (2) The concept of requiring the piping layout be placed on building plans was reviewed and determined to be non enforceable. Will add more clarification for the compliance manual. (3) The incremental cost for the 200,000 btu gas supply line is minimal and will allow the potential to switch to more types of efficient water heaters to include tankless. Currently manufacuturers offer far more high efficiency tankless water heaters than tank systems.
45-DAY	64695	The Sunrun Partners Comments 2012-04-11 TN-64695.pdf	110.10	Comment is the same as Docket #64681.	No	Resposne is the same as in Docket #64681.
45-DAY	64698	Mares and Dow Construction Inc Comments 2012-04-09 TN-64698.pdf	150.1(c)3A and 150.2	Comment are the same as in Docket #64622	Yes/No	Response are the same as in Docket #64622
45-DAY	64698		10-102, 100.1, 110.6(a)4	Comment are the same as in Docket #646221.	Yes on 1 and No on 2	Response are the same as in Docket #646221
45-DAY	64706	Sustainable_Roofing_Solutions_Comments_TN-64706.pdf	150.2 (b) 1 B	Comment are the same as in Docket #64653.	No	Response is the same as Docket #64653.
45-DAY	64707	WW_Product_Marketing_Title_24_Lighting_Section_Comments_TN-64707.pdf	130	Recommendation is to create two efficacy classes for luminaires, one for traditional lamps with a 80 Color Rendering Index (CRI) and a relaxed level for a 95 CRI.	No	The Standards are not based upon the rating of lamps (light bulbs) installed into luminaires, but upon the classification of the luminaire, as listed by Uderwriters Laboratory. Lamps vary over the life of a luminaire, therefore, the Standards do not use lamps to classify permanently installed luminaires.
45-DAY	64727	Skylight Pros Inc Comment 2012-04-13 TN-64727.pdf	150.2 (b) 1 B	Kevin E. Lightcap President, Skylight Pros, Inc. suggest to use Energy Star as Ca Standard and increase exemption from 10sf to 16 sf for newly installed skylights.	Yes	Clarification: The intent of the Residential 2013 stds was not to have replaced skylights meet the vertical fenestration thermal performances of U-factor 0.32 and SHGC of .25. Rather the skylights must meet the maximum of U-factor of .055 and SHGC of 0.30 for replaced skylights with no are limitations. This is already clarified in the stds. The 10 sf allowance has been increased to 16 sf for new construction.
45-DAY	64785	Carrier_Comments_regarding_the_45_Day_Language_TN-64785.pdf	section 100.1, 110.2,140.4	(1) Definitions needed to be more refined than presented; (2) standards should include updated reference test standards for mandatory minimum efficiency requirements; ; (3) request to include more equipment categories for mandatory minimum efficiency requirements; ; and (4) revision to economizer trade off tabulation.	Yes.	(1) All definitions that were commented upon were revised using the most recent ASHRAE 90.1-2010 along with the errata published for 90.1-2010. (2)Reference documents were updated to their most recent version as requested. (3) Majority of the additional category of equipment were included under the mandatory minimum efficiency section under 110 with the exception of two categories for which no ASHRAE standards or prior supporting studies were available. (4) Economizer trade-off tabulation was revised with the document provided by the ASHRAE technical studies.
45-DAY	64790	Public_Comment_-_Rick_Troutner_TN-64790.pdf	150.2 (b) 1 B	The proposed requirements for U-factor and maximum area for skylights will essentially eliminate the market for replacing existing skylights, and thus eliminate a part of the construction industry.	No	The Residential 2013 standards do not require skylight replacements to meet the vertical fenestration thermal performance requirements of U-factor 0.32 and SHGC of .25. Rather replacement skylights must meet the maximum U-factor of .055 and SHGC of 0.30 and are not subject to area limitations. For new construction, the area limitation in the adopted standards was increased from that in the proposed standards from 10 square feet to 16 square feet.
45-DAY	64791	Newport Ventures Inc's Comments on the Proposed Fan Efficacy Requirements forCentral Integrated Systems-TN 64791.pdf	150.1(c)10	Proposed eliminating the 0.58 Watt/cfm and 350 cfm per ton fan efficacy requirement and proposed instead: to require electronically commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with NEMA Standard MG1-2006 at full load rating conditions	no	This was a proposal for a substantive change that had not been presented at workshops and thus could not be considered for a 15-day language change.
45-DAY	64791	Newport Ventures Inc.s Comments on the Proposed Fan Efficacy Requirements forCentral Integrated Systems-TN 64791.pdf	Section 150.0(o)	Proposed for Central Fan Integrated Ventilation Systems: require electronically commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with NEMA Standard MG1-2006 at full load rating conditions	no	This was a proposal for a substantive change that had not been presented at workshops and thus could not be considered for a 15-day language change.
45-DAY	64792	Newport Ventures Inc.s Comments on the Proposed Definition of Makeup Air and theProposed Requirements for Limiting Makeup Air-TN 64792.pdf	140.9(b).2.A	Current definition of Makeup air is far reaching and needs to allow flexibility to designer, Kitchen ventilation definition needs to be revised to include infiltration & transfer air from immediate & adjacent spaces	No	Requested change in definition add complexity to compliance and enforcement. Moreover, the language applies only to the prescriptive compliance method and hence designers are not limited in their flexibility
45-DAY	64793	Newport Ventures Inc.s Comments on the Luminaire Requirements Specifically asPertaining to Night Lights-TN 64793.pdf	150.0(k)1E	Recommends adding language that night lights shall not be required to be controlled by vacancy sensors or dimmers for safety reasons.	Yes	Language added as recommend, to address potential safety hazard associated with automatically turning off, or dimming night lights.

45-DAY	64793	Newport Ventures Inc.s Comments on the Luminaire Requirements Specifically asPertaining to Night Lights-TN 64793.pdf	Part 11 Appendix A4.2	Recommends allowing low efficacy night lights to be installed	Yes	The energy efficiency provisons of Part 11 require compliance with Part 6 Section 150.0(k) unless specifically required otherwise. Therefore, Section 150.0(k)1E allowing low efficacy night lights 5 watts or less also applies to the energy efficiency provisions of Part 11.
45-DAY	64839	Accurate_Air_Engineering_Inc_Comments_TN-64839.pdf	120.6 (e) 1,2,3	Air compressor system should be clearly defined to apply to all systems that operated between 45 and 200 pounds per square inch (psi).	Partially	Commission revised the defintion and the new requirements will apply to all systems that are operating at 40 psi and higher. No justification was offered for limiting the definition to systems oeprated at 200 psi or less, and nothing in the record supports such a limitation.
45-DAY	64839		120.6 (e) 1,2,3	All 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 reason raised by another commenter.
45-DAY	64839		120.6 (e) 1,2,3	Definitions for Effective Trim Capacity, Largest Net Capacity Increment, and Primary Storage should be clearly defined and moved to the code.	Yes	Commission agreed.
45-DAY	64839		120.6 (e) 1,2,3	The word "approved" in "approved controller" should be removed as it is confusing.	Yes	Commission agreed.
45-DAY	64839		120.6 (e) 1,2,3	Remote location compressor system should not get exempt.	Yes	Commission agreed.
45-DAY	64841	Robert_Mowris_and_Associates_Comments_TN-64841.pdf	110.3(c)7	Recommend changes to the proposed showerhead requirements	No	Proposed showerhead requirements have been withdrawn.
45-DAY	64844	AHRIs_Comments_on_CECs_Proposed_Code_Language_TN-64844.pdf	§140.4(e)4G	Economizer control option in section 140.4(e)4 sensor accuracies should be revised to a slightly larger tolerance levels.	Yes	Based on the study submitted, the three sensor calibration accuracies were widened as noted by study as these have no energy impact.
45-DAY	64844		§140.4(e)4H	Like to have the sensor calibration requirement modified/eliminated to allow factory calibration as default.	Yes	Additional text about the calibration was removed and the Standards now allow the sensor calibration as part of installation requirements.
45-DAY	64857	Global_Cool_Cities_Alliance_Comment_Letter_TN-64857.pdf	§140.3(a)1A & 141.0(b)1Bi	Supports the proposed prescriptive requirements for building envelopes, for both low-sloped and steep-sloped roofs for the 2013 Building Energy Standards, Title 24.	N/A	This comment letter supports the standards and does not request changes to the standards.
45-DAY	64858	_Robert_Mowris_and_Associates_REVISED_Comments_TN-64858.pdf	110.3(c)7	Recommend changes to the proposed showerhead requirements	No	Proposed showerhead requirements have been withdrawn.
45-DAY	64875	Robert_Mowris_and_Associates_Revised_version_4_Comments_TN-64875.pdf	110.3(c)7	Recommend changes to the proposed showerhead requirements	No	Proposed showerhead requirements have been withdrawn.
45-DAY	64879	EPS_Industry_Alliances_Comments_TN-64879.pdf	110.8(g) 110.8(g)1.B	The EPS Industry alliance says that there is no data to support the 0.3% water absorption limit 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	64879		150.O 150.0(l)1.	The EPS industry alliance says that there is no data to support the 0.3% water absorption limit 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 demonsteates the need for the proposed (and adopted) regulation: the report shows that about half of the expanded polystyrene products tested had absorption rates ao about 0.5% and that many products fail.
45-DAY	64879		150.O 150.0(l)1.	The EPS Industry alliance says that there is no data to support the 0.3% water absorption threshold.	No	The 0.3% absorption rate is consistent with ASHRAE std. 90.1, and the the report referenced in the letter that references asupporting evidence for the comment (NRCA, Report No. 3131.2) is not sufficient to make the requested change: report indicates that about half of the expanded polystyrene products tested had absorption rates at about 0.5% and many products failed, which demonstrates the need for the lower 0.3% requirement in the Standards.
	64884	Bruce_A_Wilcox_Email_Regarding_CA_Energy_Code-Use_of_Chapter_8_Draft_Standard_for_BlowerDoor_Testing_of_Buildings_TN-64884.pdf		Staff received permission to use the Resnet Chapter 8, Draft Standard for BlowerDoor Testing of Buildings.	N/A	This is an Energy Commission staff document docketed 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	64898	Global_Greens_Comments_TN-64898.pdf	N/A	Global Green USA supports the 2013 Building Energy Efficiency Standards.	N/A	This comment supports the standards and does not ask for changes to the standards.
45-DAY	64901	Newport_Ventures_Inc_Comments_on_Proposed_Language_for_the_2013_Building_Efficiency_Standards_TN-64901.pdf	100.1	Asked 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 defintion of INSULATING SIDING but instead added the definition of CONTINUOUS INSULATION, which incoporates both Insulation Sheathing and Insulation Siding.
45-DAY	64901		Table 150.1-A, Footnote 4:	In Footnote 4 and the end of the sentence change "continuous insulated sheathing" to read "continuous insulation".	yes	The Energy Commission agrees with the comment and has revised the requirements for continuous insulation.
45-DAY	64901		Table 150.1-A, Footnote 4:	In Footnote 4 and the end of the sentence make "continuous insulated sheathing" to read, "continuous insulation"	no	Commission redid the entire footnote requirements to Table 150.1-A and footnote 4 was edited and it became footnote 2. Consideration was made to the issues brought up in the letter docketed.
45-DAY	64921		120.6(d)	O2 trim is not always cost-effective for smaller boilers	No	The CASE report for process boilers makes a strong case for the proposed requirements being cost-effective.
45-DAY	64921		120.6(d)	Natural gas cost used in the analysis is high. If the current gas cost is used, we concluded that certain boiler energy efficiency measures are not as cost-effective.	No	Natural gas cost that staff used in the analysis is the present value of the delivered natural gas to core/non-residential customers, average over the life cycle of the equipment analyzed.

45-DAY	64921	Enovity_Comments_on_Proposed_2013_Revisions_to_the_California_Building_Energy_Efficiency_Standards_TN-64921.pdf	120.6(d)	The analysis does not take into account that many manufacturers require O2 trim control to be installed with Variable Frequency Drive (VFD), thus the exemption for 10 hp fan or lower may be too low to be cost-effective control measure.	No	Commission believes that the decision to purchase the most appropriate control equipment to comply with the regulation belong to the owner/operator. While there are manufacturers that require O2 trim to be part of the VFD combustion fan, there are others who offer just the VFD alone.
45-DAY	64921		120.6(d)	While parallel positioning control is a good measure, the calculated energy saving may be overestimated primarily because the base case assumed boilers are operating at between 6.5 to 10 percent excess oxygen, which is too high as an average.	Partially	The base case assumption that boilers operated at 6.5 to 10 percent excess oxygen was a result of existing boilers field study. Nevertheless, the Commission has revised this requirement so that it is only apply to new boilers with a heat input greater than 5 MMBTU/hr.
45-DAY	64921		120.6(d)	Oxygen trim control measure does not account for the impact of boiler's NOx regulations. Maintaining 3 percent excess O2 is not possible for Low or Ultra-Low Nox burners.	Yes	Commission has revised the regulation to make O2 trim control an optional requirement, and specify the 3 percent excess O2 as the maximum limit to make it consistent with local Nox control requirement.
45-DAY	64921		120.6(d)	The statewide energy savings for O2 trim does not indicate that savings were only applied to Low or Ultra-Low NOx Boilers.	No	The cost and the energy savings of the measure would have to spread over the range of new boilers, including Low and Ultra-Low Nox boilers. The basis for this is the O2 trim control can be a standard equipment for Low and Ultra-Low NOx boilers. Therefore, the cost benefit analysis will not need revision.
45-DAY	64921		120.6(d)	The proposed O2 trim requirement should be applicable only for the outdoor boilers.	Yes	O2 trim is an optional requirement.
45-DAY	64950	Mike_Moore_Comments_TN-64950.pdf	***	Duplicate, see Docket TN 64901.		Duplicate, see Docket TN 64901.
45-DAY	64956	CPP_Comment_TN-64956.pdf	140.9	The commenter was concerned with whether the "circulation rate" stated within section 140.9(c) covers air flow rates within laboratory space or flow rate out of the laboratory exhaust stacks.	No	Though the Standards language was not changed based on this comment, an additional sentence was added to the section 140.9 to clarify the effect of the circulation rate within the space and associated balancing process needed to maintain the space pressurization at various flow conditions.
45-DAY	65022	California_Energy_Commissions_David_Ware_to_CIMAs_Daniel_Lea_in_Response_to_CIMAs_Comments_on_Building_Energy_Efficiency_Standards_TN-65022.pdf	Table 150.1A	Staff response to Docket number TN 64691 - This is an Energy Commission staff document docketed 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.	NA	This is an Energy Commission staff document docketed 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	65026	Governors_Office_of_Planning_and_Research_TN-65026.pdf	N/A	The Governor's Office of Planning and Research informs the Energy Commission that no one has submitted comments on the proposed negative declaration for the 2013 Building Energy Efficiency Standards.	N/A	This is an Energy Commission staff document docketed 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	65079	Asphalt_Roofing_Manufacturers_Association_Comments_TN-65079.pdf	140.3(a)1	(A) The trade-off values for U-factors for solar reflectance (allowing insulation in lieu of a cool roof product), when using DOE's Cool Roofs Calculator (http://www.ornl.gov/sci/roofs+walls/facts/CoolCalcEnergy.htm), show that the values result in a substantial penalty when using insulation in place of cool roofs. The CEC should not adopt the standards until it has resolved this. (B) A report by GnarusAdvisors, engaged by ARMA, to review the Architectural Energy Corporation's (AEC) cost analysis in support of the aged solar roof reflectances for low-sloped roofs, shows that AEC's cost analysis is deficient in 12 ways, which are summarized as: (1) there is insufficient data on which to reach its conclusions from a statistical standpoint, (2) the scope of information (from the responses to the surveys and the follow up phone calls) collected was insufficient to draw a statistically valid conclusion, and (3) the general methodology was inappropriate. Therefore, the CEC should not increase its aged solar reflectance standard until a statistically sound and thoughtful analysis is completed.	No/No	The Commission disagrees. (A) While the Department of Energy's (DOE) Cool Roofs Calculator is helpful in understanding comparative energy savings between roof insulation and a cool roof product, its underlying assumptions and calculation procedures prohibit an even-handed comparison with those used to develop the Commission's proposed insulation tradeoff values for the 2013 Standards. The different assumptions between the two calculation methods include: (1) Differences in the prototype building: size, roof area, envelope and glazing thermal effects, building use type; (2) Differences in operation schedules: assumed internal gains; (3) Differences in analysis period: truncating the effects of weather through regression equations versus use of hourly weather data covering all 16 statewide climate zones; and (4) Differences in cost effectiveness: use of standardized DOE averaged cost data for select regions versus the Commission's time-dependent valuation (TDV) calculation of energy budget consumption. These differences account for the different results reached using DOE's Cool Roofs Calculator. In addition, the DOE cool roof calculator is an inappropriate tool for developing the 2013 Building Standards because the DOE cool roof calculator has no hourly data available to conduct a time-dependent valuation analysis (as necessary to calculate energy savings), and it does not consider the impact of a building's internal loads, which results in underestimating the cool roof benefits and less accurate results. (Comment Letter from McHugh Energy Consultants Inc. (Docket No. 65116) (May 8, 2012).) Using the appropriate calculations, the R values/U-factors do not result in a penalty but are cost-effective and will result in energy savings. (B) The Commission has provided a specific response to each "deficiency" raised in the Gnarus Advisers Report in Attachment A to this Response to Comments.
45-DAY	65090	Air-Conditioning_Heating_and_Refrigeration_Institute_TN-65090.pdf	§140.4(e)4B	(1) Add a threshold limit for applicability of the provision by cooling capacity; (2) eliminate the performance warranty ~~i~~and replace it with manufacturer waranty on return air dampers	Yes	The standards were revised in accordance with both comments
45-DAY	65116	McHugh_Energy_Consultants_Response_to_Arma_Comments_dated_May-4-2012_TN-65116.pdf	***	(A) Commenter expresses support for the proposed cool roof requirements as they provide significant savings to California businesses, reduce energy related emissions, reduce expenditures on additional electricity infrastructure to serve peak cooling loads and reduce loss of money to other states to pay for imported power. (B) Commenter urges allowing tradeoffs between aged solar reflectance and insulation that meet the performance standard. (C) ARMA's [Asphalt Roofing Manufacturers Association] comment letter dated May 4, 2012 underestimates the savings from cool roofs because the DOE Cool Roofs calculator does not include TDV [time-dependent valuation] of energy savings and does not account for the building's internal load.	(A) and (C) - N/A (B) - Yes	(A) and (C) These comments support the proposed standards and do not request changes to the proposed standards. (B) The Commission has extended the insulation tradeoff tables for aged solar reflectance to both new and existing buildings in 15-day language. Because of the difficulty in describing where insulation is to be installed and the specific amount based on roof assembly type, the tables were also changed to specify maximum U-factors. (See Payam Bozorgchami, Commission Staff Comment (Apr. 3, 2012), at p. 1, number 3.) The Commission further refined the table through an Errata adopted with the 2013 Building Standards to correct anomalies. (See Comment Letter from Associated Roofing Contractors of the Bay Area (Docket No. 65467, Comment No. 112a (May 25, 2012).) Contractors continue to have the option to comply through the performance standard (using the Overall Envelope Approach in the Nonresidential Alternative Calculation Method (ACM)) or the prescriptive standard (making the cool roofs versus insulation tradeoffs).

45-DAY	65153	Sika_Sarnafil_Comments_on_Title_24_2013_Proposed_Roofing_TN-65153.pdf	140.3 and 141.0	(A) The Commission should use phased increase in the aged solar reflectance values because the CEC's currently proposed changes (1) lack concrete evidence to support the need for changes, (2) fail to demonstrate an appreciable economic or environmental benefit, (3) would result in significant market disruption, and (4) has a short implementation timeframe; (B) The proposed Solar Reflective Index (SRI) value should be 72, based on a solar reflectance of 0.63 and an emittance of 0.75 yield, not 75, which seems to reflect an emittance 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 CASE report Nonresidential Cool Roofs (June 6, 2011), Nonresidential Cool Roofs (Oct. 2011), and Architectural Energy Corporation's Draft Cool Roof Nonresidential Consolidated Cost Summary (Feb. 6, 2012), and the Cost Effectiveness (May 15, 2012 Docket # 65227) which demonstrate that the energy savings from a 0.55 to a 0.70 - 0.65 aged solar reflectance standard has a cost effectiveness of $0.40/ft2 t+L181o $1.35/ft2 (from, page 3 of Non residential Cool Roof report dated October 2011) and a state wide energy savings of approximately 47 GWh (from, page 27 of Non residential Cool Roof report dated October 2011). 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. 6 (2008), available at http://www.cpuc.ca.gov/NR/rdonlyres/D4321448-208C-48F9-9F62-1BBB14A8D717/0/EEStrategicPlan.pdf.) Regarding market disruption, the Commission is aware of products that are already available by searching the Cool Roof Rating Council's directory. Finally, the implementation timeframe is reasonable based on the Commission's allowance of insulation tradeoffs for lower reflectance values to allow those manufacturers who may need to improve their cool roofing products time to do so. In contrast, commenter has not shown that a phased increase will as effectively save the same amount of energy, despite being less burdensome on stakeholders. Therefore, because the 0.63 standard is cost-effective and will result in energy savings, and because a phased increase will not be as effective at achieving those energy savings, no change is appropriate. (See paragraph 2 of Docket Number 65233) (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 cool roofing products in the CRRC directory do have a thermal emittance 0.85 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—it helps maintain parity between manufactures who have committed to full testing of their products and those that do not. (see Docket Number TN-65193, SRI Equivalence)
45-DAY	65159	Sika_Sarnafil_Comments_on_Title_24_Prescriptive_Requirements_for_Roofing_TN-65159.pdf	140.3(a)1	Same concern expressed in Doc #65153, (B).	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 cool roofing products in the CRRC directory do have a thermal emittance 0.85 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—it helps maintain parity between manufactures who have committed to full testing of their products and those that do not. (see Docket Number TN-65193, SRI Equivalence)
45-DAY	65184	Robert Erhardt_Philips_15-Day_Language_comments_TN-65184.pdf	130.1(c)7B	Philips proposes an allowance specifically for high intensity discharge systems to be dimmed to 60 percent of design power because most HID lighting cannot currently be dimmed to 50 percent.	Yes	Language amended 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 dims to 60 percent of design power. This change is consistent with similar thresholds for HID lighting in the Title 20 Appliance Efficiency Regulations.
45-DAY	65188	Keith_Temple_Hygrometer_Accuracy_TN-65188.pdf		Consultant report document supporting requirements for digital hygrometer accuracy.	N/A	This is an Energy Commission staff document docketed 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	65189	New_Section_135_Requirements_for_Electrical_Dist._Systems_TN-65189.pdf	130.5	Consultant report document supporting requirements in Section 130.5	NA	This is the final CASE report that supports the new requirments in Section 130.5.
45-DAY	65192	PECI_Letter_TN-65192.pdf	120.1, 120.2 ASHRAE 62.1 /90.1	Temporary reduction exception to section 120.1 to be increased to 30 min; ventilation control in conjunction with occupancy sensor control be revised; addition exception to nonpollutant environments.	Yes	Control interval was increased from 5 min to 30 min as noted by ASHRAE research; Ventilation controls within occupancy sensor ares was revised to accommodate two option as decided by stakeholder; exception was added as indicated for pollutant free areas.
45-DAY	65193	Architectural_Energy_Corp_Response_to_Stakeholder_Comments_on_Nonresidential_Cool_Roof_Proposal_TN-	140.3(a)1	CEC technical consultant response in support of proposed cool roof requirements and responding to May 8, 2012 comments of Sika Sarnafil, Docket No. #65153, Comment No. 93.	N/A	This comment letter supports the standards and does not request changes to the standards.
45-DAY	65194	Low_Leakage_Air_Handler_TN-65194.pdf	JA-7	support data from LBNL scientist for standards as email report	n/a	This is an Energy Commission staff document docketed 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	65195	Doug_Scott_Responses_TN-65195.pdf	120.6	Doug Scott responds to docketed comments.		Doug Scott responds to docketed comments.
45-DAY	65196	Steve_Bayden_of_RESNET_Email_Communication_Giving_Permission_to_Use_Ch_8_of_RESNET_Mortgage_Industry_Nat_TN-65196.pdf	RA3.8	Allowance for CEC to use RESNET air leakage procedures.	NA	No action required.
45-DAY	65204	Email_to_Stan_Graveline_regarding_Title_24_TN-65204.pdf	140.3(a)1	Staff email response to Doc #65153.	n/a	This is an Energy Commission staff document docketed 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	65225	Rationale_for_Proposed_Requirement_for_Air_Filter_Media_Labeling_TN-65225.pdf	150.0(m)12D	Energy Commission staff submit notes on the rationale for the proposed requirements for air filter media labeling in section 150.0 of the 2013 Building Energy Efficiency Standards.	N/A	This is an Energy Commission staff document docketed 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	65226	CEC-500-2012-062.pdf	Title 24, Part 6	CEC PIER Report regarding: EFFICIENCY CHARACTERISTICS AND OPPORTUNITIES FOR NEW CALIFORNIA HOMES.	NA	This is a consultant document docketed by Energy Commission staff 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	65228	Architectural_Energy_Corporation_Non_Residential_Cool_Roof_Cost_Summary_TN-65228.pdf	140.3(a)1ia & 141.0(b)2B	AEC submits a non-residential cool roof cost summary.		This is a consultant document docketed by Energy Commission staff 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	65229	Infiltration_Modeling_Guidelines_for_Commercial_Building_Energy_Analysis_TN-65229.pdf	N/A	Energy Commission staff submit a report by the Pacific Northwest National Laboratory on infiltration modeling guidelines for commercial building energy analysis.	N/A	This is a consultant document docketed by Energy Commission staff 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	65230	Commercial_Building_Infiltration_Reduction_Analysis_Results_TN-65230.pdf		AEC memorandum discussing potential energy savings from the adoption of air sealing requirements.	N/A	This is a document docketed by the Energy Commission staff 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.

Response to Written Comments

45-DAY	65232	Resnet_DRAFT_Air_Leakage_Testing_Chapter_8_Standards_TN_65232.pdf	N/A	Draft copy of the Chapter Eight RESNET Standard for enclosure and air distribution leakage testing.	N/A	This is a document docketed by the Energy Commission staff 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	65233	Architectural_Energy_Corporation_Response_to_ARMA_Comments_TN-65233.pdf	140.3(a)1ia & 141.0(b)2B	AEC response to Commissioner Dougles to a letter from ARMA Dated May 4, 2012 Docket TN-65079, defending the cost analysis supporting the non-residential roof reflecance standard.	Letter from the commenter is a support	This comment was submitted after the 45-day comment period ended and before the 15-day comment period began. Therefore, no response is required. However, it should be noted this document is included in the "documents relied upon" for the 15-day language that was ultimately adopted.
45-DAY	65233	Architectural_Energy_Corporation_Response_to_ARMA_Comments_TN-65233.pdf	140.3(a)1ia & 141.0(b)2B	AEC response to Commissioner Douglas to a letter from ARMA Dated May 4, 2012 Docket TN-65079	No Comment	AEC response to Commissioner Douglas to a letter from ARMA Dated May 4, 2012, Docket TN-65079. This response supports the standards, and refutes the objections to the standards made in ARMA's letter.
45-DAY	65234	CEC_Response_E-mail_to_ARMA_Comments_and_Supporting_Data_on_Proposed_2013_Building_Standards_TN-65234.pdf		Letter from Energy Commission staff to ARMA responding to ARMA's comments and supporting data related to non-residential cool roof solar reflectance values proposed in the 2013 Building Energy Efficiency standards.	N/A	This is an Energy Commission staff document docketed 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.
15-day	65283	Newport_Ventures_Comments_on_the_15_Day_Language_for_the_2013_BSTD_TN_65283.pdf	100.1	Recommendations for modifying definition of continuous Insulation. It has been asked for the commision to include wording that states, " separates conditioned from unconditioned space and has a minimum R-value of R-2".	No	(1) The commenter's suggestions might imply restrictions to certain product types. (2) Suggestion for inclusion of R2 is inappropriate because the Standards should encourage innovations in insulation materials, and defining air barriers as needing an minimum R2 is too restrictive.
15-day	65283	Newport_Ventures_Comments_on_the_15_Day_Language_for_the_2013_BSTD_TN_65283.pdf	100.1	Recommendations for modifying definition of continuous Insulation. It has been asked for the commision to include wording that states, " separates conditioned from unconditioned space and has a minimum R-value of R-2".	No	(1) The commenter's suggestions might imply restrictions to certain product types. (2) Suggestion for inclusion of R2 is inappropriate because the Standards should encourage innovations in insulation materials, and defining air barriers as needing a minimum R2 is too restrictive.
15-day	65298	Len_Damiano_Comments_on_2013_Joint_Appendices_Appendix_JA1_Glossary_Pg_5_TN-65298.pdf	Ref. App. JA1	Nonsubstantive recommendation to update references to various documents referred to in the Standards.	Yes	The Commission made the recommended changes.
15-day	65391	Payam_Bozorgchami_Email_to_Mike_Moore_of_Newport_Ventures_re_Letter_Suggesting_Changes_TN-65391.pdf	100.1	Letter from Energy Commission staff to Newport Ventures in response to comments submitted by Newport ventures (Docket # 65283).	N/A	This is an Energy Commission staff document docketed 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.
15-day	65395	Raypak_Inc_R_Glass_Comments_TN-65395.pdf	table 110.2-K , 120.9 (c)	(1) Makes changes to definitions that indicate the affiliation of HI as part of AHRI. (2) Boiler and Heating equipment efficiencies to be updated to follow along recently updated Federal regulations which have higher minimum efficiency parameters.	Yes	Although there are two revisions for minimum efficiency parameters adopted in federal law, the applicable final rule date has been postponed However, current federal regulations require equipment with higher minimum efficiency parameters than the current ASHRAE 90.1-2010 parameters that are included in the current standards. Therefore, Table 110.2-K corresponding provisions were updated to include the current federal standards and thereby to reflect this comment.
15-day	65400	California_Housing_Partnership_Corporation_Comments_TN-65400.pdf	***	The commenter stated the proposed standards appear to have a bias against buildings without air conditioning as evidenced by use of a performance compliance approach that requires comparing a proposed building that does not need air conditioning to an idealized model that has air conditioning. The Standards do not give appropriate credit to buildings in coastal climates.	No	An air conditioning system is added prior to calculating the overall energy budget in the performance path of compliance. If the unmet load hours (where space comfort conditions are not met for any hour) are very small but still above the pre-set threshold levels, the designer can change the indoor or envelope parameters to reduce the cooling load for the space. This will reduce the unmet load hours below the threshold. When that happens the building will not require an air-conditioning system. In such cases, a space cooling energy credit will be given by the Compliance Software.
15-day	65418	Newport_Ventures_Comment_Letter_on_15_day_Language_TN-65418.pdf	150(k)6	Change the requirements that certain lighting systems must have high efficacy luminaires "and" be controlled by vacancy sensors, to those certain lighting systems must be high efficacy luminaires "or" controlled by vacancy sensors. This will make the language consistent with requirements in subsections 3 and 5.	No	The requirement for both high efficacy lighting and vacancy sensor was supported by the record, which makes clear that requiring both high efficacy luminaires and vacancy sensors was cost effective in garages, laundry rooms, and utility rooms. Furthermore, there is no reason that this language needs to be consistent with subsections 3 and 5, because these are different types of spaces, having different operating conditions, and thus having different energy requirments.
15-day	65426	Steel_Framing_Alliance_Comments_on_Adoption_of_15-Day_Language_TN-65426.pdf	100 (e) 2D ii	Comment that proposed language conflicts with requirements in other sections.	Yes	Commission agrees with comment.
15-day	65426		120.7	(1) Concerned that mandatory wall insulation requirements are too restrictive; (2) suggested making the U-factor requirements for metal and wood frame requirements the same.	No	(1) The Energy Commission did not adopt more stringent R-values and U-factors in Table 150.1A, as the adopted measures are cost-effective, technologically feasible, and represent a consensus among all building industry stakeholders. The Energy Commission recognizes that other measures may also be cost effective and readily available but the adopted measures to improve envelope measures are a first step toward helping the Energy Commission meet its future goals of zero net energy. (2) The Commission has retained U-factors, which will provide builders and contractors flexibility to determine the best performance approach. (3) This comment does not address the regulations or the process by which they were adopted, and therefore no response is required.
15-day	65426		Ref. App. JA4, Tables 4.3.3 & 4.3.4	(1) Metal framed wall U-factors are based on incorrect assumptions; (2) table is no longer sufficient because it does not address continuous insulation above R-7.	No/No	(1) The Energy Commission does not agree with the comments made. The U-factors for metal and wood framed wall are based on procedures referenced in the ASHREA Handbook of Fundamentals, an accepted industry reference. (2) The Energy Commission U-factor tables in the Reference Joint Appendices JA4 do not exclude values beyond those already listed in individual tables. Sections 4.1.1 to 4.1.6 of the Reference Joint Appendices JA4 describes alternative means of deriving insulation values beyond those listed in the tables.
15-day	65429		100(e)2Dii, 120.7 and JA4 table	Duplicate, see Docket TN 65426.	NA	Duplicate, see Docket TN 65426.
15-day	65467	Associated_Roofing_Contractors_Comments_on_Adoption_of_the_15-Day_Language_for_the_2013_Building_Energy_Efficiency_Standards_TN-65467.pdf	140.3(a)1A, Tables 141.0-C and D	(A) The CEC should correct Table 141.0-B [Roof/Ceiling Insulation Tradeoff for Aged Solar Reflectance] as the Table proposed in 15-Day Language produced anamlous results in some situations. Associated Roofing Contractors of the Bay Area Counties have worked with CEC staff and consultants to identify the errata. (B) The CEC should make clear in its Nonresidential Compliance Manual that a minimum insulation requirement set out in Table 141.0-C [Insulation Requirements for Roof Alterations] is satisfied when the roofing contractor makes a trade-off that complies with the requirements in Table 141.0-B.	Yes/N/A	(A) The Commission made the requested edits to Table 141.0-B in an errata to the standards which was presented for adoption with the Standards. (B) This part of the comment does not address the proposed standards or the process by which they were adopted and therefore does not require further response. The Nonresidential Compliance Manual is adopted in a separate proceeding, and this comment is noted for those purposes.
15-day	65482	SCE_M_Alvarez_Response_to_CBIA_Comments_posted_March_28_2012_TN-65482.pdf	general	Support for proposed standards.		Commission agrees with the spirit and intent of this support letter from SCE

15-day	65483	Taylor_Engineerings_Comments_on_Occupant_Sensor_Proposal_TN_65483.pdf	120.2 (e)3	The comment comments on a number of typographical or grammatical errors. In addition, the comment objects to the Ocupant Sensor Ventilation (OSV) control requirements as conflicting with the existing Demand Control Ventilation (DCV) requirements.	Yes	Errata has been drafted to clarify that the OSV requirements only apply when DCV is not required. The original intent of the OSV requirements was to add occupancy-based controls to spaces not governed by DCV requirements.
15-day	65483		120.1 (c) 5C/D/E	DUPLICATE OF ABOVE	Yes	Duplicate of above.
15-day	65485	Global_Cool_Cities_Alliances_Comment_Letter_on_15-day_Language_for_Californias_2013_BSTD_TN_65485.pdf	140.3(a)1A	Letter supporting the proposed prescriptive requirements for building envelopes and cool roof requirements, for both low-sloped and steep-sloped roofs for the 2013 Building Energy Standards, Title 24.	N/A	This comment letter supports the standards and does not request changes to the standards.
15-day	65486	Farber_Energy_Design_G_Farber_Letter_Regarding_15_Day_Language_for_2013_TN-65486.pdf	120.7(b)2	Proposal to change the metal frame U-factor requirement for consistency between nonres and nonres/high-rise buildings.	Yes	Commission agrees to the recommended U-factor change.
15-day	65486		140.3(a)5 /B	Gary Farber suggest 1) not using the "most efficient value" when using chromogenic glazing. He also suggest 2) using "mathematical average" with most efficient and least efficient rating for each value. 3) Further the use of the word "modulate" is not "technically correct".	NO	Based on discussions with the commenter 1) an EXCEPTION was added to Section 140.3(a)5B to promote automatic controls to modulate the ranges as the incidence angle of sunlight changes during the day, as part of an automated system or integrated with a building automation system. This ensures the maximum use of the chromogenic ranges that are automatically controlled and are NOT dependent on human behavioral input; 2) an area weighted averaging for chromogenic glazing only was added, that may not to be used with non-chromogenic fenestration. If the Exception for automatic controls is not applicable, then the values listed in TABLE 140.3-B, C, or D must be used regardless of the NFRC label certificate. If no certificate not available then must NA6 or the Table 110.6 Default Tables are applicable. The term "modulate" is an industry term used by the chromogenic manufacturers.
15-day	65486		120.7(c)1	Recommendation to included minimum R-value requirement for raised mass floors.	No	The Energy Commission does not agree with the comments made. The requirements are based on minimum envelope thermal performance levels already established by the Prescriptive envelope measures in Table 140.3-B and C. The commenter did not provide substantiating data supporting that raised mass floor insulation is justified.
15-day	65486		150.0(d)	Recommendation for U-factor of mass raised floors in Section 150.0(d) to match U-factor tables in Reference Appendices.	No	The Standards are based on a wood-framed assembly. The requirements for mass raised floors are to make the assembly meet the equivalent U-factor equivalent to R-19 wood framed floor. For mass raised floors, continuous insulation may be required underneath the system.
15-day	65488	RECAs_Comments_on_the_2013_BSTD_Rulemaking_TN_65488.pdf	Title 24, Part 6	SUPPORT: Includes fenestration support and compares to 2012 IECC.	NO	RECA Supports Energy Commission efforts on alls aspects of the Fenestration.
15-day	65489	CAL_SMACNA_C_Marshall_Letter_Regarding_2013_Building_Standards_TN-65489.pdf	140.9(b)1A	Kitchen ventilation related. Duplicate of above comment		Answered under comment #23a.
15-day	65489		140.9(b)2	Kitchen ventilation related. Duplicate of above comment #23b		Answered under comment #23b.
15-day	65490	Cardinal_Glass_Industries_Comments_15-Day_Language_TN_65490.pdf	150.0(q)	CARDINAL GLASS supports most of Energy Commissions 2013 BEES recommendations in 45 day language. However, Cardinal recommends that the 0.58 U-factor requirement of should be much lower to make it more effective and beneficial to occupants.	NO	The Energy Commission agrees with Cardinal's assessment in reducing the prescriptive maximum U-factor down to 0. 40; however our other stakeholders also recommended it to be 0.58 as been the worst case allowed. We also agree that 0.58 U-factor should be much lower; however, the proposed 0.58 U-factor window is a common value that can be met by most fenestration products and particularly can be used in the Performance Approach.
15-day	65490		140.3-B	Cardinal recommends that the Commission delete Equation 140.3-B and eliminate any WWR exception in the next Standards update. Cardinal further agrees that EQ 140.3-B should not be used in the ACM performance. Cardinal suggests that the Commission lower the maximum U-factor to 0.40 for all California climate zones in the next Standards update instead of 0.58.	YES	We agree that EQ 140.3-B should not be used in determining VT in Performance approach. Perhaps the reduction of the U-factor from 0.58 down to 0.40 may be implemented in the next cycle.
15-day	65490		Table 141.0-A	Delete Table 141.0-A for Windows in Nonresidential Alterations, It is not clear why this nuance exists?	NO	This is another compromising table that we made with the other stake holders. This is only used for alterations; however, they still need to meet the prescriptive visible transmittance, VT, requirements.
15-day	65490		110.6(a)2,3,4	Cardinal recommends that the Commission eliminate Exception 1 to Section 110.6(a) (the 1,000 square feet NFRC exemption) in the next Standards update and removal of the Nonresidential Appendix NA6 in this round of standards. This allows another exception of glass less than 1,000sf to be used for less efficient glass.	NO	It was the Energy Commission intention to totally remove Nonresidential Reference Appendix NA6 and the 1,000 sf limit. However, compromising with other stake holder recommendations and reasons why we should limited to the proposed language was persuasive.
15-day	65491	Birch_Point_Consulting_T_Culp_Letter_Regarding_2013_Building_Standards_TN-65491.pdf	140.3(a)6C/D 140.3(a)5C/	Birch point recommends editorial changes to Sections 140.3(a)6C and 140.3(a)6D to dynamic glazing in Skylights.	YES	Editorial; Changes have been accepted and forwarded to the new adopted errata. Should be availbe to see in the next print.
15-day	65494	SPFAs_Comments_on_Adoption_of_15-Day_Language_for_2013_BSTD_TN_65494.pdf	150.0(c)2	Concerned that current wording for mandatory wall insulation requires completely filling 2x6 wood frame cavities with insulation to meet R19 requirement, but Spray Polyurethane Foam ("SPF") should not require the filling of cavities. Proposed modifying language to allow partial fill of cavities.	No	The Energy Commission does not agree with the comment made. The Standards do not restrict insulation. Instead, requirements are stated in terms of maximum U-factors which allow different insulation levels and other components to makeup the assembly that meets the requirements of the Standards.
15-day	65494		150.0(g)1	Concerned that vapor retarder language (1) is not consistent with other Parts of the California Building Code and (2) should specify allowance that any material (i.e., insulation product) that has been tested for a vapor retarder should be allowed.	No	The Energy Commission does not agree with the comment made. Vapor retarder is defined in section 100.1(b) of the Standards, which references the 2010 California Building Code section 202 which does not limit the type of material that can be used as an approved vapor retarder.
15-day	65494		Table 150.1-A	Recommend an exception from required whole house fan with unvented attics.	No	The Energy Commission does not agree with the comment made. The package requirements listed for Table 150.1-A assume the "standard" building has an attic, therefore, if there is no attic there is no requirement for a a whole house fan. The prescriptive requirement sets the minimum energy budget that buildings are compared against. The performance compliance method allows for different designs and measures to be used, provided the energy use does not exceed that of the minimum energy budget. The performance of unvented attics can be analyzed through the performance compliance method.
15-day	65494		RA3.5.2	Editorial recommendation to specify "2 inches" of ccSPF.	Yes	Commission agrees to nonsubstantive change.
15-day	65494		RA3.5.6	Editorial recommendations to reinsert subsection headings throughout section.	Yes	Commission agrees to nonsubstantive change.
15-day	65494		RA3.5.6.1.3	Editorial recommendation to delete deplicative language.	Yes	Commission agrees to nonsubstantive change.
15-day	65494		RA3.5.6.1.3	Recommendation to provide exception from specification for eave baffles with unvented attics.	No	Commission believes current language is sufficient to ensure intent of requirements apply only to vented attic situations.
15-day	65494		RA3.5.6.1.3	Recommendation to split SPF requirements as they apply to recessed lights and CBC requirements for fire resistance coverings.	Yes	Commission agrees a separation of the current language will help increase clarity of the requirements.

Response to Written Comments

15-day	65495	Frank_Morrison_Aircoil_Company_Comments_on_15_Day_Language_TN-65495.pdf	120.6(b); 140.4(h); Definitions	Commenter objects to the efficiency requirements for evaporative condensers used in Commercial Refrigeration applications. Commenter suggests: (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 equipment; (3) adding a CTI Standard (ATC-105S-11) for Closed Circuit Cooling Towers and updating standard CTI STD-201-04 to the 2011 year; (4) adding "Circuit" to the definition of Open Cooling Tower and making corresponding changes to the sections on Heat Rejection Systems and Tower Flow Turndown (which currently use the term "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. 64216), which response 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 100.1 along with updating the third cooling technology standards to the most recent document as suggested. (4) Definitions have been clarified in errata.
15-day	65496	Preston_P_Blay_Baltimore_Aircoil_Company_Comments_on_15_Day_Language_TN-65496.pdf	table 120.6-B	Suggests reducing the proposed minimum efficiency requirements for evaporative condensers because the efficiency requirement for evaporative condensers with heat rejections greater than 8,000 MBH would be detrimental to industry by eliminating more than 50% of such evaporative condensers and may increase energy use due to an unintended market switch to less costly but lower efficiency systems.	No	Same response as docket # 64216, 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-day	65497	PMIs_Comments_Adoption_of_15-Day_Language_for_the_2013_BSTD_TN_65497.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 duplicative of CALGreen codes.	Yes	Water conservation measures were removed from the efficiency standards and will be placed in the CALGreen
15-day	65498	Coalition_for_Fair_Energy_Codes_Comment_Letter_on_15-	100.1	Comment in support of definition of continuous insulation.	NA	No action needed.
15-day	65498	Coalition_for_Fair_Energy_Codes_Comment_Letter_on_15-Day_Language_for_2013_BST	Table 150.1-A	Proposal to clarify requirement as it applies to 2x6 framing in table footnote.	No	Proposed language change weakens stringency of standards by allowing 2x6 framed assemblies of higher U-factor than that for 2x4 framed assemblies, even though the separate requirements for 2x6 framing are cost-effective.
15-day	65499	PGE_Comments_Adoption_of_15-Day_Language_for_the_2013_	Title 24, Part 6	Supports the 2013 Building Energy Standards, Title 24.	NA	No action required by Commission.
15-day	65501	RCMAs_Comments_on_the_Proposed_Changes_to_California_Title24_TN-65501.pdf	140.3(a)1ia & 141.0(b)2B	RCMA opposes the proposed nonresidential low-sloped cool roof requirement, claiming that the conducted cost analysis done by AEC is flawed.		Commission staff responded during the proceeding. See Docket # 64571, http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/public_comments/45-day/2012-04-03_Payam_Bozorgchami_TN-64571.pdf, which stated, in part, every effort was made by staff to ensure the data collection was representative of industry costs. The data gathered is representative of industry's products and installation costs. The cost analysis includes contractors, distributors and manufacturers who work throughout the state.
15-day	65502	EVAPCO_Comments_to_the_15_day_Language_TN-65502.pdf	110.2G, 90.1	This comment reiterates the commenters' concern (submitted as docket TN-65495 & TN-64216) without any new evidence or support materials for their request to lower the evaporative condenser specific efficiencies from currently proposed efficiency levels.	No	This comment is a duplicate of TN-65495 & TN-64216. After the two previous docket comments, a e-mail discussion with industry experts drafted a response to the prior docket comments and was shared with the two docket comment contacts. This comment is in response to the experts' responsive e-mail (which was added as a document relied upon and listed in the response to docket TN-64216). 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-day	65506	AHRI_Comments_15-Day_Language_with_Respect_to_Water_Heaters_and_Commercial_Boilers_TN_65506.pdf	150.0(n)	(A) Proposed 150.0 (n) is vague and restrictive. It should be reworded as: "For gas water heaters using a natural draft venting system, the building plan shall include a vent retrofit plan identifying a horizontal vent path less than 12 feet without any interior walls along the path and a side-wall vent location in compliance with the National Fuel Gas Code." (B) The requirement in subparagraph (D) for a gas supply line with capacity of at least 200,000 Btu/h is unnecessarily restrictive and in some cases will add cost for no benefit.		(A) The concept of requiring the piping layout be placed on building plans was reviewed and determined to be non enforceable, and was removed. (B) The incremental cost for the 200,000 btu gas supply line is minimal and will enable converting to more types of efficient water heaters, including tankless. Currently manufacuturers offer far more high efficiency tankless water heaters than tank systems.
15-day	65506		120.9(a) 120.9(c)	(A) The proposed requirement of 120.9(a) for positive air shut off for commercial boilers is too vague and potentially unsafe. It should be rewritten using the conventional terms used by the industry.	Yes	(A) The definition for combustion air positive shut-off was inadvertently omitted from Section 100.1. The Commission has added a new definition for this term in Section 100.1 in response to this comment.
15-day	65506		120.9(a) 120.9(c)	(B) We do not understand how the proposed standards for commercial boilers is cost effective for a commercial boiler installed in a climate zone where it will only operate about 500 hours a year (as in more temperate climate zones).	N/A	(B) The cost-effectiveness analysis for the combustion air positive shut off on commercial boilers used 1524 hrs in standby mode. This is based on 2722 hrs x 56%, which is the average time in standby mode across the simulated climate zones. The number of standby hours does not vary significantly by climate zone and thus does not affect the analysis to a significant degree. This is derived from a series of building energy simulations as described in the CASE report on commercial boilers.
15-day	65506		120.9(a) 120.9(c)	(C) The requirement of 120.9 (c) assumes the use of parallel positioning controls. Our search of the CEC database of commercial boilers did not find any models of commercial boilers with inputs of 5,000,000 Btu/h 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.	No	(C) Commission count there are 968 units at 5MMBTU/hr or greater heat input across 17 different manufacturers (see http://www.appliances.energy.ca.gov). Regardless, Commission has added an exception from this requirement for higher thermal efficiency commercial boilers.
15-day	65506		120.9(a) 120.9(c)	(D) The CEC should not prohibit the use of a 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 to do so is overly restrictive.	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 is very uncommon these days because it is not reliable on a long-term basis.
15-day	65506		120.9(a) 120.9(c)	(E) The requirement that the oxygen concentration must be 5% or less over the entire firing range may not be practical. 10-15% is more reasonable.	Partially	The Commission revised the regulation to indicate that the 5 percent O2 to be maintained from 20 to 100 percent firing range.
15-day	65507	AHRI_Comments_on_Design_and_Control_Requirements_for_Quantities_of_Outdoor_Air_TN_65507.pdf	120.1(e)2 / 3	AHRI comments that the proposal to require outside airflow to 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 10% is too narrow of a range for measuring air flow.	No	The current 2008 Standards already has these requirements for testing outside air flow within 10%, as part of the acceptance testing requirements of 120.5. The main change for the 2013 Standards was to explicitly list these airflow measurement requirements in the ventilation section of the Standards (120.1), rather than just in the detailed testing requirements in the NA appendix. In other words, these requirements to test outside air flow are not new, they are just better documented in the 2013 Standards.
15-day	65508	AHRI_Comments_on_15-Day_Language_in_Respect_to_Economizer_Requirements_TN_65508.pdf	140.4(e)4	Paragraph 1: Drop the word "manufacturer" from the warranty requirement because it may put the onus 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-day	65508		140.4(e)4	Paragraphs 2 and 3: Identical comments as previously addressed in comment #73.	No	See response to comment #73
15-day	65508		140.4(e)4	Paragraphs 4: change the relief air percent from 100% down to 90% because 100% is difficult to achieve if there is other sources of exhaust.	No	The 100% relief air requirement is an existing requirement and there is no evidence that this has posed a problem; this requirement was not proposed to be changed and was never presented to the public for commenting during pre-rulemaking and the rule-making phases.
15-day	65509		100.1	Comment to modify definition of U-factor.	Yes	The Commission agrees to nonsubstantive change.
15-day	65509		140.3(a)1Aia	Comment to modify exception for clarification.	Yes	The Commission agrees to nonsubstantive change.

15-day	65509	Extruded_Polystyrene_Foam_Associations_Comments_on_the_15-Day_Language_for_the_2013_Energy_Efficiency_Building_Standards_TN_65509.pdf	141.0(b)2Bia	Comment to modify exception for clarification.	Yes	The Commission agrees to nonsubstantive change.
15-day	65509		140.3(a)1B	Comment to modify exception for clarification.	Yes	The Commission agrees to nonsubstantive change.
15-day	65509		Table 150.1-A	Comment to modify footnote 1 for clarification.	No	The Commssion disagrees the requested changes are necessary.
15-day	65509		150.1(c)1B	Comment to modify language for greter clarification.	Yes/No	The Commission agrees with intent of comments but does not feel proprosed modification is needed in full for clarity. Inclusion of subsections "I and ii" are important to ensure these frame types meet requirements. The Commission agrees to some nonsubstantive changes.
15-day	65509		150.1(c)1D	Comment to modify language for greter clarification.	Yes	The Commission agrees to nonsubstantive change.
15-day	65509		JA4 tables	Comment to modify various U-factor tables to include additional columns for continuous insulation.	Yes	The Commission agrees to nonsubstantive change, however, since explicit U-factor claculations are allowed tables do not need to be fully inclusive of every insulated sheathing product on the market.
15-day	65509		JA4 table 4.3.4	Comment to modify language for greter clarification.	Yes	The Commission agrees to nonsubstantive change.
15-day	65509		JA4 table 4.3.4	Comment to modify language for greter clarification.	Yes	The Commission agrees to nonsubstantive change.
15-day	65510	Public_Comments_from_Howard_Ahern_on_15-Day_Language_TN_65510.pdf	150(j)3	Recommendations (1) to modify pipe insulation provisions grammatically and (2) 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 commenter failed to provide any performance criteria for pipe insulation that would provide the same energy savings as 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 enclose piping while other products that can meet the insulation requirements do not have adhesives. Therefore not allowing adhesive tapes could pervent the use of some insulation materials.
15-day	65511	RNM_Engineering_Inc_Comments_re_the_Revisions_to_California_Code_of_Regulations_Title_24_Part_1_and_Part_6_TN_65511.pdf	130.1.a.3.A	There are situations where manual control of egress lighting is desirable, but the proposed standards require automatic override . Recommend allowing the use of UL924 shunt relays for automatic ON of luminaires designated as egress lighting that are normally under manual control.	NO	The recommendation is unnecessary. An exception to Section 130.1(a)1 already allows up to 0.2 watts per square foot of lighting to be continually illuminated. This is an allowance, not a requirement, for a certain amount of egress lighting to be left on. Therefore, the Standards already allow the use of shunt relays for automatic ON of luminaires designated as egress lighting.
15-day	65511		130.1.c.2	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 45-Day Language for clarification, because of the propagation of misinformation regarding the use of countdown timers for compliance.
15-day	65511		130.1.c.3	For Exception 1, ten minutes is not sufficient time for countdown timers in restrooms. Recommend changing time to fifteen minutes.	NO	The record does not establish that fifteen minutes is a preferable duration for restroom vacancy sensors, as opposed to ten minutes.
15-day	65511		150.0.k.7	Luminaires in closets less than 70 square feet are exempted from the lighting requirements. Recommend requiring automatic controls in these small closets.	NO	It has not been submitted to the Energy Commission, documented to the record, nor discussed publically, if automatic lighting controls in small closets are cost effective, technically feasible, or save energy.
15 Day	65512	RNM_Engineering_Inc_Multi-Level_Comment_on_15-Day_Language_TN_65512.pdf	130.1(b)	Letter from RNM Engineering dated May 30, 2012. Recommends defining the maximum ballast factor to be the high-end trim or turning value as defined in Section 100.1.	No	The value of 100% would not preclude implementing the setting of high-end trim or tuning of the ballasts. Trim or tuning of the ballast could be done within the 80-85% bin, and still allow the system to be readjusted to comply with the 100% requirement.
15-day	65513	APP-TECH_Inc_Comments_on_the_Adoption_of_15-Day_Language_for_2013_Energy_Efficiency_Building_Standards_TN_65513.pdf	App 1-A	Commenter recommends using the most current publication date for AHRI 550/590	Yes	Corrected in errata
15-day	65513		120.8, 100.1, JA1, 10-103(a)1	Commenter opposes the requirements that design review be completed by a design engineer and proposes changes to the Exception for section 120.8, subd. (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 (2013_CASE_Design_Phase_Cx.pdf) describing both the requirements and associated cost-benefit analysis.
15-day	65514	Sempra_Energy_Utilities_Comments_on_the_2013_Title_24_Building_Energy_and_Efficien	Title 24, Part 6	Comment supporting Standards.	NA	No action required by the Commission.
15-day	65519	NEMA_Comments_to_Title_24_on_the_Subject_of_Smart_Thermostats_TN_65519.pdf	JA5	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 JA5.	No	Joint Appendix JA5 allows for thermostat communications to be provided by either on-board communications or modular radios. Implementation of the modular radio approach by a manufacturer is always voluntary. Both approaches are treated equally with no advantage or disadvantage given to the modular radio approach. There is no requirement that any products with the modular 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 patents and intellectual property within the market sector. Any manufacturer who voluntarily elects to pursue production of a thermostat using the modular radio approach will already necessarily be performing significant due diligence on existing patents and intellectual property within the thermostat sector.
15-day	65519		JA5	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.
15-day	65520	Extruded_Polystyrene_Foam_Associations_Revised_with_Two_Additional_Comments_on_the_Adoption_of_15-Day_Language_TN_65520.pdf	100.1	Proposal 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 correlate with ASHRAE definition.
15-day	65520		Table 150.1-A	Proposal to clarify Exception 4 for aged solar reflectance.	Yes	Commission has made modification in the errata.
15-day	65520		100.1	Proposal to clarify Exception 4 for aged solar reflectance.	Yes	Commission has made modification in the errata.
15-day	65520		140.3(a)1Aia	Proposal to clarify roof assembly U-factor requirement.	Yes	The Commission accepted proposed language modifications with minor Commission changes to improve language.
15-day	65520		141.0(b)2B	Proposal to consolidate footnotes 1 and 2 and delete language regarding demising wall insulation requirement.	No/Yes	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.
15-day	65520		140.3(a)1B	Proposal to clarify language of prescriptive wall insulation requirements.	No/Yes	The Commission agrees that adding language to include mass walls helps improve clarity; however, Commission does not agree to remove subsections "I" and "ii" as these are necessary to clarify that wall requirements apply to all wall framing sizes.

15-day	65520		Table 150.1-A	Proposal to delete language regarding framing of slab insulation.	Yes	Commission agrees to this nonsubtantive change.
15-day	65520		150.1(c)1b	Proposal to include additional continuous insulation R-values to JA4 assemblies and clarify assembly descriptions.	Yes	Commission agrees to this nonsubtantive change; however, updates to JA4 tables will be made prior to effective date of standards.
15-day	65531	Baltimore_Aircoil_Companys_Comments_on_the_15-Day_Language_for_the_2013_Energy_Efficiency_Building_Standards_TN-65531.pdf	Table 120.6-B	Identical comments and responses as Docket # 65495	No	Same response as Docket # 65495
15-day	65554	Natural_Resources_Defense_Council_Comments_TN-65554.pdf	Title 24, Part 6	Supports the 2013 Building Energy Standards, Title 24.	NA	No action required by the Commission.
15 Day	65556	IALD_John_Martin_Comments_TN-65556.pdf	10-114	Commenter 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	No	As stated in the comment, the information provided here is directed at future proceedings. The outdoor lighting zone requirements were not a subject of this proceeding. However, further clarity on the standards will be provided in the compliance manuals. Addtionally, the appropriate place to add further clarity is in the 2013 Nonresidential Complaince Manual.
15 Day	65556		130.0(c)6B	Email from Michael Lindsey dated May 30, 2012. Recommends another option for determing the wattage of a compact fluorescent luminaire.	No	The changes in 15 Day Language, for determining the wattage of a compact fluorescent or HID lumianires, was developed with broad stakeholder involvement. This new proposed language did not have stakeholder support or other rationale.
15 Day	65556		10-114	Email from Michael Lindsey dated May 30, 2012. Recommends clarifying compliance with the Outdoor Lighting Zone requirements	No	Title 20 incorporates applicable federal standards as they become effective, and automatically preempt conflicting state standards. No change is necessary.
15 Day	65556		110.9	Email from Michael Lindsey dated May 30, 2012. Recommends not limiting ballast factors to only 0.90 for non-dimming ballasts	No	There were no changes proposed for this language in this proceeding. This measure applies to residential lighting applicatins, and does not apply to nonresidential lighting applications. The comments do not relate to residential products because low ballast factors are not utilitzed in residential applications.
15-day	65566	Carrier_Corporation_Comments_re_Proposed_Revisions_TN-65566.pdf	100.0(h)3A	wanted to be specific of which capacity groups of these equipment are to be certified and what programs.	No	The list is for those equipment that are to be certified are covered by wording "applicable" as needed in preceding header area.
15-day	65566		100.1(b)	revision for IEER & other definitions	Yes	It was previously revised as per carriers request comment dated 4/17/12. However, I agree with this on other standards applicable to package types, VRF and central equipment categories.
15-day	65566		110.2(b)	(1) need section 100.0(h)3A to be revised because only certain sizes are required to be certified (2) revise the definition for IEER to include more AHRI standards (3) reword section 110.2(b) "preferential rate control" under Exception 1B (4)some typo and footnote revision in section 110.2, mandatory minimum efficiency tabulations A through I. (5) pressure sensors are required under section 120.2(i) and need to be removed (6) remove the requirement under section 140.4(e)1. (7) revise the requirement threshold from 45,000 Btuh to 54,000 Btuh	No	The comment was received after the original deadline for the 15-day language comments period. Therefore, the relevant sections were revised and published as Errata. These changes were in the final language adopted. A later Errata was published with these changes as requested by the commenters.
15-day	65566		table 110.2-A	want to remove the changes that will be mandated by federal standards after 1/1/2015.	No	Title-20 merely absorbs the federal standards as they become final. Therefore, the requested change is not correct. Title-20 staff provide the applicable t-20 rule wording.
15-day	65566		table 110.2-A	request for changing the capacity bound values or great, great or equal, less, less or equal setting.	No	Capacity category bounds are defined by ASHRAE 90.1-2010
15-day	65566		table 110.2-A	Requesting for removal of foot note (a) due to applicability of IEER for unit's capacity control.	No	The applicable standards 340/360 and specific capacity control applicability related wording was from the 340/360 standard. Therefore, no change needed.
15-day	65566		table 110.2-I	Requesting for removal of foot note (a) due to applicability of IEER for unit's capacity control.	No	Same explanation as in previous comment 142f. IEER applicability was directly from Standards 1230.
15-day	65566		120.2-(i)	Stating pressure sensors are not required by standards and thereby rendering the accuracy statement as unnecessary. Also sub items 5 and 8 are the same.	No	Accuracy statement cover what equipment was used (with "if used")and their accuracies. Since different ways condensing or evaporator temperatures are measured or derived this is needed. Sub section 5 & 8 provides two different elements: status display & fault diagnosis, therefore, both are needed.
15-day	65566		140.4(e)1	Disagree with the requirement under section 140.4(e)1, that the design requirement of 100% of the open position for economizers is not necessary and will result in oversizing systems.	No	The request for lowering the 100% open position requirement is not incorporated. The 100% open position requirement is for relief system capability, not for the operational requirement at full load. Therefore, this will not cause oversizing.
15-day	65566		140.4(e)4	Proposed section 140.4(e) subsection 1 and 4 define requirements for economizers for units with capacities greater than 45,000 Btu/h. The requirements of Title 24 only require economizers for units with greater than 54,000 Btu/h. Suggest changing requirements to 54,000 Btu/h.different in applicable capacity threshold.	No	The Commission agrees. This is a typographical error which should be corrected.
15-day	65566		140.4(e)4 H	140.4(e)4H requiring 100% is not necessary.	No	Since the available leakage or other flow losses cannot be known, having the wording capable of 100% outdoor air without pressurizing will cover all different situations.
15-day	65566		150.0(m)15	The commenter disagrees with (1) the mandatory dictation of design requirements that require manufacturers to be limited to a specific CFM per ton ratio and (2) the requirement that all equipment airflow be greater than 350 cfm/nominal ton.		(1) The mandatory air flow requirement is an installed performance standard, not an equipment design specification. Since there are multi-speed and variable speed compressor systems that may not meet this standard at every operational mode, the Energy Commission has revised the language to add an exception in section 150.0(m)15. (2) Added single speed compressor to the exception allowing zonal systems using a single speed compressor to comply with the air flow requirements in the performance compliance approach rather than meeting 350 CF/ton requirement that is required for all system types. In performance approach, energy efficiency tradeoffs make it possible to mitigate any inefficiency due to reduced system air flow by increased efficiency elsewhere within the residential design to achieve overall budget goals.
15-day	65566		150.1(b)4B	Disagree with a requirement for field verification of system performance.	n/a	this comment has misinterpreted the substance of requirement given in Section 150.1(b)(4)(B). The field verification in Reference Residential Appendix RA3.4.4.1 is a field inspection of the installed system to confirm the information on the manufacturer's nameplate conforms to the AHRI rating document for the system. There is no performance field diagnostic procedure required.
15-day	65566		150.0(m)15	The commenter disagrees with (1) the mandatory dictation of design requirements that require manufacturers to be limited to a specific CFM per ton ratio and (2) the requirement that all equipment airflow be greater than 350 cfm/nominal ton.		(1) The mandatory air flow requirement is an installed performance standard, not an equipment design specification. Since there are multi-speed and variable speed compressor systems that may not meet this standard at every operational mode, the Energy Commission has revised the language to add an exception in section 150.0(m)15. (2) Added single speed compressor to the exception allowing zonal systems using a single speed compressor to comply with the air flow requirements in the performance compliance approach rather than meeting 350 CF/ton requirement that is required for all system types. In performance approach, energy efficiency tradeoffs make it possible to mitigate any inefficiency due to reduced system air flow by increased efficiency elsewhere within the residential design to achieve overall budget goals.

Response to Written Comments

15-day	65568	California_Building_Industry_Association_Comments_TN-65568.pdf	All	Letter of support from the California Building Industry Association providing comments for consideration in context of comprehensive building energy efficiency policies.	N/A	The Energy Commission appreciates the support for these standards and the comments for consideration in developing the State's energy policy.