California Energy Commission
DOCKETED
15-BSTD-01
TN 76425
DEC 03 2015

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75552.001	Administrative Definitions	The Engineering Enterprise	The definition of "Building" is any structure or space. I do not understand how or why the definition of building would include a space within a structure such as a tenant improvement space. This definition because very confusing for most people when taken in context of the code, for example, lighting power in buildings over 10,000 square feet shall have demand response capabilities. It would be much clearer to state that spaces over 10,000 square feet shall have demand response capabilities. Break out the definition of building and space.	Partially	Staff finds that the definition of "building" incorporating the phrase "any structure or space" is appropriate to its regulatory purpose and precludes arguments of semantics over regulated areas or aspects of buildings. For this reason, staff does not find that removing the term "space" from this definition or providing a separate definition for "space" would improve the clarity of the Standards. Staff has edited language relating to demand response requirements to make their application more clear, consistent with the commenter's comment..
75503.002	Administrative Lighting forms	kW Engineering	Commenter made numerous suggestions to the lighting forms	N/A	These comments related to compliance documents neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language.
75615.078	Administrative Definitions	George Nesbitt	We reference, of course, ASHRAE 6022 for mechanical ventilation. I think in the standards it should say which year of 6022 we're referencing, because I don't think we necessarily want to change that mid-code cycle, anyway.	No	Staff find that the year is specified in the definitions Section of the Standards.
75539.005	Nonresidential HVAC Air Handler	Taylor Engineering	120.2(i) - Commenter recommends revising the sentence to "Any newly installed cooling air handler that has a design total mechanical cooling capacity over 54,000 Btu/hr shall include a standalone or integrated Fault Detection and Diagnostics system in accordance with Subsections 120.2(i)1 through 120.2(i)8."	No	The scope of this section was limited to air side systems according to the 2013 rulemaking. The current 2016 rulemaking did not intend to widen this scope, and the commenter's proposed change would have the effect of apply this Section's requirements to new types of equipment (chilled water systems). For this reason, the commenters proposed change is found to be outside of the scope of the current rulemaking. The commenter is encouraged to submit a fully developed proposal for this change for the 2019 code cycle.
75622.048	Nonresidential (General)	George Nesbitt	I think we need to pay a lot more attention to alteration requirements for multi-family buildings. High-rise multi-family belongs fully within the low-rise part of the Standards. We already have water heating, the interior apartment, and exterior lighting that's controlled from within the apartment, falling under the low-rise mandatory requirements and/or prescriptive.	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language.
75622.050	Nonresidential (General)	Cheryl English	I'm perplexed with the changes that are still occurring to the 45-Day Language. It is my understanding that changes will continue to be posted, which makes it difficult to provide comments by 3/17 as requested. I would encourage you to reevaluate the comment period.	N/A	Staff provided the following clarification at the hearing where the comment was made: *MR. SHIRAKH: So as I mentioned this morning, the commenting period for these hearings are March 30th, but we strongly encourage people to give us the writing by March 17th because that will give us more time to respond to this. But, you know, if you absolutely have to give it to us by the 20th or 22nd, you can do so, but again, we really want to have these comments by the 17th.* *MR. BREHLER: And Mazi, this is Pippin Brehler again from the Chief Counsel's Office. If staff and the Commission is absolutely proposing changes to the 45-Day Language like they're displaying in here, those will be subject to a minimum 15-Day formal comment period that people will be able to comment on at that time. But by making this available now, we're hoping to jumpstart that comment process. But it's not shortening any comment process.* *MR. SHIRAKH: We're not, yeah, what we're showing here is what would have been presented as part of the 15-day language. So we're basically providing the public an opportunity and advance notice of what's going to be part of the 15—day language. So we'll have actually more time to respond to the 15-day language, which will be presented in April. (P165-166)*
75622.051	Nonresidential (General)	Jeff Guild	Presuming the proposed language is implemented, how soon will it go into effect/will the public need to wait for AHJs to adopt the new language?	N/A	The 2016 Standards become effective on January 1, 2017.

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76302.001	Nonresidential (General)	Sid Pelston	I can tell you categorically that the structure of Title 24 was ill conceived, is detrimental to the best interests of the State of California, is extraordinarily costly to ratepayers without commensurate benefit, erodes the viability of energy efficiency and threatens many of the industry stakeholders. It cannot be allowed to continue in its present form. It will leave a terrible legacy of all those responsible for its design, implementation and those with the power to make change that allow it to continue in itspresent form.	No	The comment neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Nonetheless, staff find that the Building Energy Efficiency Standards have consistently provided benefits to the State and its citizens from their original adoption in 1978 to the present day, by ensuring that cost-effective efficiency measures are included in new construction and, though that, minimizing the costs of energy consumption to both building owners and residents and to the State as a whole. Along with these benefits, reducing energy consumption though efficiency avoids unnecessary emmissions of pollutants and minimizes the environmental impacts of meeting California's energy needs, leaving a beneficial legacy of environmental stewardship.
75238.001	Nonresidential Administrative	California Department of General Services	DGS recommends adding architect to list of licenced professionals to perform certification on space cooling equipment	No	Staff finds that certification of complex mechanical systems are only able to be performed by a licenced engineer, and not an architect, under the Business and Professions Code. Given this, staff find that making the change requested by the commenter would not be appropriate.
75280.001	Nonresidential Administrative	California Department of General Services	DGS recommends adding architect to list of licenced professionals to perform certification on space cooling equipment	No	Staff finds that certification of complex mechanical systems are only able to be performed by a licenced engineer, and not an architect, under the Business and Professions Code. Given this, staff find that making the change requested by the commenter would not be appropriate.
75491.001	Nonresidential Administrative	American Institute of Architects	AIA requested better definitions for the building commissioning process and include architect along with registered professional engineers in the definitions of design engineer, design reviewer, engineer-in-house, and third party design engineer	Partially	Staff have added licenced architect to definition of "Design Review". Staff have incorporated similar language into the final language in section 10-103, 10-103.1, 10-103.2, and 100.1. Staff have not duplicated definitions in the Business and Professions Code in order to prevent issues of confusion or conflict with that Code.
75615.043	Nonresidential Administrative	Alex Bosenberg	I wanted to ask Mazi and the Commissioners if there will be any response to our numerous comments submitted over the last six to eight months. We made a lot of substantive comments and none of them appear to be reflected in the code language. And so, we are confused as to what, if any, there will be any response to those. . . . What is the timeline for your response on this code cycle?	N/A	The Energy Commission is required to publish a Final Response to Comments at the end of the rulemaking proceeding for comments submitted during the proceeding. Neither the Energy Commission nor its staff are ob+ligated to provide advance or draft copies of comment responses, nor to provide written responses to comments received during the pre-rulemaking period.
75615.044	Nonresidential Administrative	Alex Bosenberg	I appreciate that response. However, it doesn't afford us the ability to see if our comments were misunderstood until after adoption. We have some concerns about that. We've met with staff many times over the last 12 months and each time thought we were being understood, but now it appears that we weren't, and we want to rectify that.	N/A	The comments that were submitted by NEMA in the pre-rulemaking period and that staff found to have merit were reflected in the 45-day language. The ones that staff did not find to be appropriate were not included in this language.
75615.045	Nonresidential Administrative	Alex Bosenberg	I neglected early on to state that if folks look around they won't see very many people in industry present, myself included, and that's because the agenda didn't come out soon enough for us to be able to plan our travel. And that is a long-standing complaint and we've tried to work with the staff on that.	N/A	Staff finds that a full agenda was posted two weeks prior to the hearing, and that notice was provided on February 13th, 2015. Remote attendance via phone and internet (WebEx) was available to all attendees.
75615.046	Nonresidential Administrative	Mike Hodgson	The Energy Commission should clarify what constitutes a conflict of interest.	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language.
75925.001	Nonresidential Administrative	Jay Martin	Commenter requested numerous small corrections of noted errors	Yes	Staff corrected the noted errors.
75945.001	Nonresidential Administrative	RNM Engineering	Commenter noticed a formating error in section 140.1	Yes	Staff corrected the noted error.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75955.001	Nonresidential Administrative	RNM Engineering	Commenter suggested adding the word "licensed" in front of engineers and add part 1 to top of page	No	Staff does not find that adding the word "licensed" improves the clarity of the requirement or its consistency with the language and phrasing of the Business and Professions Code, and risks duplicating a requirement from that Code or imposing a requirement separate from that Code. For this reason, staff did not find that adding this word would be appropriate.
76095.086	Nonresidential Administrative	George Nesbitt	I really think when we have an issue with how something is written in the Code, if there is a problem, we really need to go back and correct it rather than sort of sweeping it under the rug, and so when you publish Errata you really need to republish manuals with the corrections so it's there for people to find.	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language, in that they relate to compliance documents developed and published following adoption of updates to the Standards.
76095.088	Nonresidential Administrative	Manuel Alvarez	We support these Standards as you're having proposed, so we ask you to move forward.	N/A	Staff appreciates this comment of support.
76095.089	Nonresidential Administrative	Valerie Winn	Today I'm here to offer our support for adoption of both the Residential and Nonresidential Building Code Standards, and in offering our support, I really also wanted to thank the members of the Commission staff for all of the hard work they've done on this, and really recognize how they have balanced feedback from a number of different parties on these somewhat controversial issues. So from that perspective, the balance that is struck, what do they say, good public policy makes everyone a little unhappy? We think that there's a fair balance here, and so as a result, you know, we feel that we want to support the adoption of these Standards as they've been proposed. And we look forward to working with staff on the 2019 Codes and Standards.	N/A	Staff appreciates this comment of support.
76095.090	Nonresidential Administrative	Tamara Rasberry	I just want to thank staff for the time that they committed to the Sempra Utility Companies as we worked to close the gap on the Title 24 Regs. I know we were in discussions, I think the first one was in August and the last one was just I think three weeks ago, last month. So I just want to thank the staff for the time and making themselves available for the transparency that we've seen, and we've come a long way. So thank you for that. I just wanted to make sure that's on the record.	N/A	Staff appreciates the comment of support for the Standards and for the process.
76095.091	Nonresidential Administrative	David Jacot	We are concerned that 15-day language [relating to nonresidential lighting alterations] as it currently sits has been rushed. I think the fact that we've seen 30 versions, we're on Version 30X of 15-day language, has really limited the opportunity for us to quantify the potential benefits or impacts, and we're hearing that discussion from the other speakers. So we are concerned that it could undermine Title 24's intent to transform the lighting industry and we don't feel that it currently addresses the loss of energy savings that are being incurred by utility direct install programs, specifically ours. So we therefore respectfully request the Commission put off the adoption of Section 141 of the 2016 Standards, perhaps revert it to 45-day status so the stakeholders can have the opportunity to work through those issues in more detail that lead to a better solution.	Yes	The Commission followed the commenter's suggestion and adopted the 2016 Standards absent the changes to Sections 141.0(b)2I, J, K, and L at its June business meeting. Staff then developed two subsequent 15-Day Language documents drafted with active participation of various stakeholders, providing an additional four months to work through issues and arrive at language balancing stakeholder concerns. These Sections were then adopted at the November business meeting.
76095.092	Nonresidential Administrative	Jay Martin	Mr Martin requested another detail edit on the 15-day language due to minor errors he discovered. Specifically, references to 2010 Mechanical Code, and Table 100.0-A	Yes	The 2010 references to the California codes will fixed as errata.

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74828.001	Nonresidential Administrative ATTCP	National Lighting Contractors Association of America	There are currently no requirements for Acceptance Test Technicians (ATT) to submit documentation to the Acceptance Test Technician Certification Provider (ATTCP) to which the ATT is certified. Therefore, an ATT can complete an acceptance test and submit Certificates of Acceptance to the Building Department without the ATTCP having any knowledge of work completed by their ATTs. For quality assurance, NLCAA recommends that all Acceptance Test Technician Certification Providers be required to serve as registration providers in accordance with the applicable requirements in Reference Appendix JA-7.	No	Commenter's request is understood to be requesting that the Energy Commission regulate the agreement between the ATTCP and its certified ATTs, and impose additional requirements on that relationship. Staff does not find that ATTCPs are unable to make provision of documentation a condition of their certification, and does not find that inserting the Energy Commission into the relationship between ATTs and ATTCPs in this way would be appropriate or within the scope of the current rulemaking.
75238.001	Nonresidential Administrative ATTCP	California Department of General Services	DGS recommends adding architect to list of licenced professionals to perform certification and design review	Yes	Staff agrees with comments regarding adding licenced architect to ATTCP regulations and definition of "Design Review". Staff have incorporated similar language into the final language in section 10-103, 10-103.1, 10-103.2, and 100.1
75280.001	Nonresidential Administrative ATTCP	California Department of General Services	DGS recommends adding architect to list of licenced professionals to perform certification and design review	Yes	Staff agrees with comments regarding adding licenced architect to ATTCP regulations and definition of "Design Review". Staff have incorporated similar language into the final language in section 10-103, 10-103.1, 10-103.2, and 100.1
75323.001	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The letter is a summary of a discussion that Energy Commission staff had with Tom Enslow concerning his comments; it does not contain new comments, but describes comments made in the commenter's prior comment letter.	N/A	Staff's responses to the comments referenced by this letter are presented with the prior letters submitted by the commenter.
75378.001	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter opposes the proposed changes to Section 10-103.2(c)3A and supports requiring an ATTCP to demonstrate that its training ensures technicians will have the ability to apply acceptance testing "to a comprehensive variety of mechanical systems and controls that is reflective of the range of systems currently encountered in the field." The purpose of this requirement is to ensure that technicians are able to apply their training to any of the systems he or she may encounter in the field. Proposed amendment is vague, reduces clarity and weakens existing requirements.	No	Staff finds that the original language provided no explanation or criteria for what would be, or fail to be, a "comprehensive variety", or what would or would not be "reflective of the range of systems currently encountered in the field." As the purpose of the ATTCP program is to ensure that qualified individuals are able to successfully complete specified acceptance tests, staff finds that defining the scope of the training in terms of these acceptance tests is more appropriate and less vague than retaining the undefined terms in the prior language. Staff does not find that doing so either weakens the requirements of the Standards or reduces their clarity.
75378.002	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The original language of Section 10-103.2(c)3Biii should be kept in place. An applicant's professional experience in mechanical controls and systems should be verified and should relate to ability to understand and apply the acceptance test training. Furthermore, the criteria and review process used by an ATTCP should have to be disclosed by the ATTCP applicant so that the staff and the public can assess its adequacy.	No	Staff finds that the clause at the end of the first sentence was explanatory of the purpose of the Section's requirements but did not have any regulatory effect, and thus that removing the clause is appropriate. Staff finds that the second sentence is more appropriately understood as instructions for completing and submitting an application, which are more appropriately included in the Compliance Documents than the Standards: as the ATTCP application must demonstrate the applicant's compliance with this Section's requirements, it effectively already requires that the application includes this information without this sentence specifying its inclusion. Staff therefore find that removing this sentence is appropriate given its lack of separate regulatory effect, and will be including these directions in the Compliance Documents that accompany the Standards.
75378.003	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter supports setting a standard minimum rate for quality assurance audits, and suggests requiring a higher rate for the first three to five years of any new ATTCP program.	No	Staff finds that there is no evidence of a problem relating to ATT performance (or specifically the performance of ATTs from recently approved ATTCPs) for which additional audits would represent a potential solution. Staff therefore does not find that imposing higher audit rates on newer ATTCPs is necessary or appropriate.
75378.004	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The interim approval provisions in Section 10-103.2(e) that will expire by the effective date of the 2016 code should be deleted, but the provisions regarding employer training requirements should be retained.	No	Staff finds that the language relating to employer training in former Section 10-103.2(e) is redundant with Section 10-103.2(c)3C, which imposes the same employer training requirements. Staff therefore finds that retaining the redundant language formerly in Section 10-103.2(e) would have no regulatory effect and would not be appropriate.

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75378.005	Nonresidential Administrative ATTCP	Adams Broadwell Jos	This change to Section 10-103.2(f) (now Section 10-103.2(e)) eliminates the Commission's discretion to assess the merits of an application or the rigor or effectiveness of the proposed certification program. Merely submitting the requested application information isn't sufficient. Commission also needs to evaluate the merits of the application and the strength of the proposed Provider program.	Yes	Staff has edited the language in 10-103-A(e)1 to avoid implying that approval of a complete application is automatic or ministerial, consistent with the commenter's comment. This Section now specifies that "[c]omplete applications shall be evaluated by staff based on their contents."
75378.006	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter supports changes to several Sections within 10-103.1 and 10-103.2.	N/A	Staff appreciates these comments of support.
75379.001	Nonresidential Administrative ATTCP	Adams Broadwell Jos	JCEEP respectfully asks the Commission to adopt the attached amendments to Section 10-103-B. Because these amendments are administrative in nature, the Commission has the discretion to adopt these outside of the normal building standards adoption process. JCEEP thus requests the Commission to adopt these amendments immediately in order to provide needed clarity to ATTCPs as they commence administration of the new acceptance test certification requirements.	N/A	Regarding the request to adopt the specified changes outside of the current rulemaking proceeding that adopts changes to building standards, staff does not find that regulatory changes with substantive material effects are able to be adopted outside of a rulemaking proceeding, and finds that considering the proposed changes by beginning a new, separate rulemaking proceeding would take additional time and lead to a later effective date than consideration within the current, in-progress rulemaking. Staff therefore considered the requested changes as a part of this rulemaking, consistent with the commenter's expressed need for expediency and the general ability to consider proposed changes to regulations during the public comment period.
75379.002	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs with multiple offices.	No	Staff considered the appropriateness of language specifying how Acceptance Test Employers (ATEs) are to logistically manage and staff multiple or remote offices, and found that it would not be appropriate to impose regulations on ATE business logistics at this time. Businesses may be successfully organized in any number of ways, without diminishing their effectiveness in performing their ATE duties. Modern communications tools enable a wide variety of effective arrangements between central and remote offices; imposing any set of specific, one-size-fits-all requirements on ATEs risks increasing costs without a commensurate benefit, and as there is no evidence of a problem relating to ATE logistics staff is not able to find that the proposed new regulations are necessary at this time.
75379.003	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and ATEs regarding insurance practices.	No	Staff considered the appropriateness of language specifying insurance practices for ATTCPs and ATEs, and found that it would not be appropriate to impose regulations in this area at this time. Businesses may pursue many different risk management and insurance strategies, and imposing any set of specific, one-size-fits-all requirements risks increasing costs without a commensurate benefit. As there is no evidence of a problem relating to ATTCP or ATE risk management or insurance practices, staff is not able to find that the proposed new regulations are necessary at this time.
75379.004	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests the addition of language to Section 10-103.1(c)3A and 10-103.2(c)3A relating to hands-on training.	No	Staff reviewed Section 10-103.1(c)3A and 10-103.2(c)3A, and found that the existing language requires an ATT to complete training that includes both theoretical and hands-on components before they may be certified. Accordingly, staff finds that no change is needed for this Section to address the commenter's concern regarding requirements for ATTs; staff finds that the proposed additional language would only serve to create redundancy and reduce clarity.

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75379.005	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and potential ATTs regarding verification of prior experience.	No	Staff considered the appropriateness of requiring specific documentation of prior experience, and found that it would not be appropriate to impose the proposed requirements at this time. ATTCPs are expected to develop criteria for determining that an applicant has sufficient knowledge and past experience to succeed in their training and certification program. The purpose of the experience requirement may be likened to class prerequisites for college courses: without a foundational level of knowledge and experience, the class will not be useful to the student. However, the purpose of this requirement is not to deem specific kinds of work documentation either "valid" or "invalid", and staff understands that not all work performed on-site in the construction industry is subject to rigorous and individual documentation. The ATTCP is expected to state in their application the method they will use to determine that students possess the experience necessary to succeed in offered classes, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.
75379.006	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding written exams for ATTs.	No	Staff considered the appropriateness of language requiring validation of tests for "rigor, reliability and lack of bias" along with requiring multiple versions of tests, and found that it would not be appropriate to impose regulations in this area at this time. The proposed regulations for psychometric evaluation, statistical analysis and pilot testing would impose significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. It is also not clear to staff that it is appropriate to hold examinations for Acceptance Test Technicians to standards applying to examinations for licensing of professional engineers. In principle there is a benefit to test question randomization and to maintaining a bank of potential test questions, but staff finds that specifying a particular number or amount of test questions and the percentage that must reflect a passing score for an exam is overly prescriptive and may not be appropriate to all examination types or approaches. The ATTCP is expected to state in their application the methods they will use to provide rigorous, unbiased examination of ATTs and to prevent tests from becoming compromised or being vulnerable to publication of questions, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.
75379.007	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding auditing of ATTs, and specifically that requires a higher audit percentage for newer ATTCPs.	No	Staff considered the proposed increased Quality Assurance (QA) audit criteria, and found that it would not be appropriate to impose the proposed requirements at this time. An increase to requiring a 6% QA audit rate for ATTs imposes significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. As there is no evidence of a problem relating to ATT performance (or specifically the performance of ATTs from recently approved ATTCPs) for which additional audits would represent a potential solution, staff is not able to find that the proposed regulations are necessary at this time.

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75379.008	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs, specifically to have an ethics policy and an equipment policy.	No	Staff considered the appropriateness of language requiring an ethics policy and, separately, an equipment policy, and found that it would not be appropriate to impose regulations in this area at this time. It is unclear whether a business with a written ethics policy necessarily behaves more ethically than a business without a written policy, and therefore unclear what benefit the regulation would ultimately provide. Equipment handling and maintenance are specified in the Reference Appendices as well as the industry standards, test methods and procedures that are incorporated by reference in the regulations; requirements and policies related to equipment handling by ATTs are expected to be included by ATTCPs in their agreements with their ATTs. As there is no evidence of a problem relating to ATTCP ethics or equipment handling, staff is not able to find that the proposed new regulations are necessary at this time.
75379.009	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs related to qualifications and experience.	No	Staff considered the appropriateness of language requiring ATTCP applicants to have ISO/IEC 17024 certification or, alternatively, to demonstrate past experience, and found that it would not be appropriate to impose regulations in this area at this time. Adding these criteria would risk unfairly limiting applicants to currently approved ATTCPs, which is contrary to the purpose of the regulations. As there is no evidence of a problem relating to ATTCP success or reliability that is dependent on these criteria, staff is not able to find that the proposed regulations are necessary at this time.
75379.010	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that corrects language in Section 130.1(d).	Yes	Staff has corrected the language of the Section.
75379.011	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that specifies criteria for determinations relating to ATTCP applications.	Partially	Staff finds that the proposed language would introduce ambiguity in not defining criteria for applications to be considered sufficiently "rigorous", "detailed", or "reliable". In so doing, the proposed language only communicates that applications will be reviewed and evaluated; staff therefore finds it more appropriate to embody this intent by unambiguously stating that "Complete applications shall be evaluated by staff based on their contents."
75379.012	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment providing 180 days for ATTCPs to demonstrate compliance with any substantive changes made to Title 24, Part 6 that would affect their program.	Partially	Staff have substantively incorporated this request into Sections 10-103.1(d)2 and 10-103.2(d)2, which specifies (in part) that "[t]he ATTCP shall have not less than six months following the adoption of an update to the Building Energy Efficiency Standards to prepare an Update Report." Staff found incorporating the specification into this Section to be more appropriate than creating a separate, subsequent Section as suggested by the text provided by the commenter.
75380.001	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(c)3A because it deletes the requirement that ATTCP's demonstrate that their training ensures technicians will have the ability to apply acceptance testing "to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field." The intent of the current language is to ensure that technicians are not trained on only one type of system, but rather are able to apply their training to the comprehensive variety of systems he or she may encounter in the field. This is a critical requirement to ensure the success of the acceptance test technician certification program and should not be deleted.	No	Staff find that there has been no relief of the requirement to apply acceptance testing to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field. Staff deleted this phrasing because it is redundant to the requirement to train to certify ATT/ATE competency in the technologies and skills necessary to perform the acceptance tests. With this amendment, staff greatly clarified the regulation and simplified the language. Additionally, taken with the requirements laid out in Section 10-103-A(c)(3)(B) "Lighting Controls Acceptance Test Technician Training", in staff's opinion, there is no interpretation of these proposed regulations that can relieve the ATTCP of training ATT/ATEs on a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field.

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75380.002	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(c)3Biii because it deletes the requirement that an applicant's professional experience in lighting controls and systems must be relevant and verifiable and deletes the requirement to disclose the criteria and review process used by an ATTCP for determining relevant experience. An applicant's professional experience in lighting controls and systems should be verified in order to ensure that he or she has the experience necessary to fully understand and successfully apply the acceptance test training. Furthermore, the criteria and review process used by an ATTCP should be disclosed by the ATTCP applicant so that the staff and the public can assess its adequacy and fairness.	No	There has been no relief of the requirements to either the ATT/ATE applicant professional experience requirements (a minimum of three years) or to the ATTCP to disclose the criteria and review process used by for determining relevant experience. Staff has eliminated only that verbiage that had no effect on the requirements. When staff originally included the "…to demonstrate their ability to understand and apply the Lighting Controls Acceptance Test Technician certification training", there was a necessary need for description of the intent of the regulation. However, this has no effect on the regulation itself. The ATTCP must still limit their applications to those with the necessary experience. The requirement to submit the criteria and review process for prequalification is contained within the paragraph under Section 10-103-A (c)(3).
75380.003	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(f) because it eliminates the discretion of the Commission to assess the merits of the application or the rigor or effectiveness of the proposed certification program when approving an ATTCP. The proposed change would bar the Commission from refusing to approve an ATTCP applicant for reasons other than failure to submit a complete application. Under this change, the Commission would not have discretion to assess the merits of the application or the rigor or effectiveness of the proposed certification program. The Commission should retain full discretion to deny approval to low quality certification programs.	No	Staff has edited the language in 10-103-A(e)1 to avoid implying that approval of a complete application is automatic or ministerial, consistent with the commenter's comment. This Section now specifies that "[c]omplete applications shall be evaluated by staff based on their contents." The Energy Commission thus maintains the same authorities to review and approve ATTCP applications as it did prior to these proposed changes. Staff finds that the proposed changes would NOT bar the Energy Commission from refusing to approve an ATTCP applicant for reasons other than failure to submit a complete application.
75380.004	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs with multiple offices.	No	Staff considered the appropriateness of language specifying how Acceptance Test Employers (ATEs) are to logistically manage and staff multiple or remote offices, and found that it would not be appropriate to impose regulations on ATE business logistics at this time. Businesses may be successfully organized in any number of ways, without diminishing their effectiveness in performing their ATE duties. Modern communications tools enable a wide variety of effective arrangements between central and remote offices; imposing any set of specific, one-size-fits-all requirements on ATEs risks increasing costs without a commensurate benefit, and as there is no evidence of a problem relating to ATE logistics staff is not able to find that the proposed new regulations are necessary at this time.
75380.005	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and ATEs regarding insurance practices.	No	Staff considered the appropriateness of language specifying insurance practices for ATTCPs and ATEs, and found that it would not be appropriate to impose regulations in this area at this time. Businesses may pursue many different risk management and insurance strategies, and imposing any set of specific, one-size-fits-all requirements risks increasing costs without a commensurate benefit. As there is no evidence of a problem relating to ATTCP or ATE risk management or insurance practices, staff is not able to find that the proposed new regulations are necessary at this time.
75380.006	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests the addition of language to Section 10-103.1(c)3A and 10-103.2(c)3A relating to hands-on training.	No	Staff reviewed Section 10-103.1(c)3A and 10-103.2(c)3A, and found that the existing language requires an ATT to complete training that includes both theoretical and hands-on components before they may be certified. Accordingly, staff finds that no change is needed for this Section to address the commenter's concern regarding requirements for ATTs; staff finds that the proposed additional language would only serve to create redundancy and reduce clarity.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75380.007	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and potential ATTs regarding verification of prior experience.	No	Staff considered the appropriateness of requiring specific documentation of prior experience, and found that it would not be appropriate to impose the proposed requirements at this time. ATTCPs are expected to develop criteria for determining that an applicant has sufficient knowledge and past experience to succeed in their training and certification program. The purpose of the experience requirement may be likened to class prerequisites for college courses: without a foundational level of knowledge and experience, the class will not be useful to the student. However, the purpose of this requirement is not to deem specific kinds of work documentation either "valid" or "invalid", and staff understands that not all work performed on-site in the construction industry is subject to rigorous and individual documentation. The ATTCP is expected to state in their application the method they will use to determine that students possess the experience necessary to succeed in offered classes, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.
75380.008	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding written exams for ATTs.	No	Staff considered the appropriateness of language requiring validation of tests for "rigor, reliability and lack of bias" along with requiring multiple versions of tests, and found that it would not be appropriate to impose regulations in this area at this time. The proposed regulations for psychometric evaluation, statistical analysis and pilot testing would impose significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. It is also not clear to staff that it is appropriate to hold examinations for Acceptance Test Technicians to standards applying to examinations for licensing of professional engineers. In principle there is a benefit to test question randomization and to maintaining a bank of potential test questions, but staff finds that specifying a particular number or amount of test questions and the percentage that must reflect a passing score for an exam is overly prescriptive and may not be appropriate to all examination types or approaches. The ATTCP is expected to state in their application the methods they will use to provide rigorous, unbiased examination of ATTs and to prevent tests from becoming compromised or being vulnerable to publication of questions, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.
75380.009	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding auditing of ATTs, and specifically that requires a higher audit percentage for newer ATTCPs.	No	Staff considered the proposed increased Quality Assurance (QA) audit criteria, and found that it would not be appropriate to impose the proposed requirements at this time. An increase to requiring a 6% QA audit rate for ATTs imposes significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. As there is no evidence of a problem relating to ATT performance (or specifically the performance of ATTs from recently approved ATTCPs) for which additional audits would represent a potential solution, staff is not able to find that the proposed regulations are necessary at this time.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75380.010	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs, specifically to have an ethics policy and an equipment policy.	No	Staff considered the appropriateness of language requiring an ethics policy and, separately, an equipment policy, and found that it would not be appropriate to impose regulations in this area at this time. It is unclear whether a business with a written ethics policy necessarily behaves more ethically than a business without a written policy, and therefore unclear what benefit the regulation would ultimately provide. Equipment handling and maintenance are specified in the Reference Appendices as well as the industry standards, test methods and procedures that are incorporated by reference in the regulations; requirements and policies related to equipment handling by ATTs are expected to be included by ATTCPs in their agreements with their ATTs. As there is no evidence of a problem relating to ATTCP ethics or equipment handling, staff is not able to find that the proposed new regulations are necessary at this time.
75380.011	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs related to qualifications and experience.	No	Staff considered the appropriateness of language requiring ATTCP applicants to have ISO/IEC 17024 certification or, alternatively, to demonstrate past experience, and found that it would not be appropriate to impose regulations in this area at this time. Adding these criteria would risk unfairly limiting applicants to currently approved ATTCPs, which is contrary to the purpose of the regulations. As there is no evidence of a problem relating to ATTCP success or reliability that is dependent on these criteria, staff is not able to find that the proposed regulations are necessary at this time.
75380.013	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that specifies criteria for determinations relating to ATTCP applications.	Partially	Staff finds that the proposed language would introduce ambiguity in not defining criteria for applications to be considered sufficiently "rigorous", "detailed", or "reliable". In so doing, the proposed language only communicates that applications will be reviewed and evaluated; staff therefore finds it more appropriate to embody this intent by unambiguously stating that "Complete applications shall be evaluated by staff based on their contents."
75380.014	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment providing 180 days for ATTCPs to demonstrate compliance with any substantive changes made to Title 24, Part 6 that would affect their program.	Partially	Staff have substantively incorporated this request into Sections 10-103.1(d)2 and 10-103.2(d)2, which specifies (in part) that "[t]he ATTCP shall have not less than six months following the adoption of an update to the Building Energy Efficiency Standards to prepare an Update Report." Staff found incorporating the specification into this Section to be more appropriate than creating a separate, subsequent Section as suggested by the text provided by the commenter.
75380.016	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter states that the proposed amendments should be adopted and made effective immediately by the Commission, rather than waiting for the effective date of the 2016 Code. The ATTCP regulations at issue are contained in Part 1 administrative section of the California Building Standards Code. Because these are administrative regulations related to the Commission's process for approving certification bodies, they are not building standards as defined under Public Resources Code section 18909. Accordingly, the proposed amendments may be adopted outside of the normal California Building Standards Code update process.	N/A	Staff does not find that regulatory changes with substantive material effects are able to be adopted outside of a rulemaking proceeding, and finds that considering the proposed changes by beginning a new, separate rulemaking proceeding would take additional time and lead to a later effective date than consideration within the current, in-progress rulemaking. Staff therefore considered the requested changes as a part of this rulemaking, consistent with the commenter's expressed need for expediency and the general ability to consider proposed changes to regulations during the public comment period.
75484.001	Nonresidential Administrative ATTCP	National Lighting Contractors Association of America	NLCAA Response to Tom Enslow; rebuttal to all comments submitted by Tom Enslow for LMCC.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75503.001	Nonresidential Administrative ATTCP	kW Engineering	Commenter recommends revision to the code compliance review to be done by the permitting requirement rather than by the acceptance tester	No	The intent of the language is to require acceptance tester to verify that the installed lighting controls match the plan. It would be beneficial for acceptance tester to engage in design review, however it is not a requirement for acceptance tester to do code compliance review
75562.001	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(c)3A because it deletes the requirement that ATTCP's demonstrate that their training ensures technicians will have the ability to apply acceptance testing "to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field." The intent of the current language is to ensure that technicians are not trained on only one type of system, but rather are able to apply their training to the comprehensive variety of systems he or she may encounter in the field. This is a critical requirement to ensure the success of the acceptance test technician certification program and should not be deleted.	No	Staff find that there has been no relief of the requirement to apply acceptance testing to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field. Staff deleted this phrasing because it is redundant to the requirement to train to certify ATT/ATE competency in the technologies and skills necessary to perform the acceptance tests. With this amendment, staff greatly clarified the regulation and simplified the language. Additionally, taken with the requirements laid out in Section 10-103-A(c)(3)(B) "Lighting Controls Acceptance Test Technician Training", in staff's opinion, there is no interpretation of these proposed regulations that can relieve the ATTCP of training ATT/ATEs on a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently encountered in the field.
75562.002	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(c)3Biii because it deletes the requirement that an applicant's professional experience in lighting controls and systems must be relevant and verifiable and deletes the requirement to disclose the criteria and review process used by an ATTCP for determining relevant experience. An applicant's professional experience in lighting controls and systems should be verified in order to ensure that he or she has the experience necessary to fully understand and successfully apply the acceptance test training. Furthermore, the criteria and review process used by an ATTCP should be disclosed by the ATTCP applicant so that the staff and the public can assess its adequacy and fairness.	No	There has been no relief of the requirements to either the ATT/ATE applicant professional experience requirements (a minimum of three years) or to the ATTCP to disclose the criteria and review process used by for determining relevant experience. Staff has eliminated only that verbiage that had no effect on the requirements. When staff originally included the "…to demonstrate their ability to understand and apply the Lighting Controls Acceptance Test Technician certification training", there was a necessary need for description of the intent of the regulation. However, this has no effect on the regulation itself. The ATTCP must still limit their applications to those with the necessary experience. The requirement to submit the criteria and review process for prequalification is contained within the paragraph under Section 10-103-A (c)(3).
75562.003	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter opposes the amendment to Section 10-103.1(f) because it eliminates the discretion of the Commission to assess the merits of the application or the rigor or effectiveness of the proposed certification program when approving an ATTCP. The proposed change would bar the Commission from refusing to approve an ATTCP applicant for reasons other than failure to submit a complete application. Under this change, the Commission would not have discretion to assess the merits of the application or the rigor or effectiveness of the proposed certification program. The Commission should retain full discretion to deny approval to low quality certification programs.	No	Staff has edited the language in 10-103-A(e)1 to avoid implying that approval of a complete application is automatic or ministerial, consistent with the commenter's comment. This Section now specifies that "[c]omplete applications shall be evaluated by staff based on their contents." The Energy Commission thus maintains the same authorities to review and approve ATTCP applications as it did prior to these proposed changes. Staff finds that the proposed changes would NOT bar the Energy Commission from refusing to approve an ATTCP applicant for reasons other than failure to submit a complete application.
75562.004	Nonresidential Administrative ATTCP	Adams Broadwell Jos	The commenter proposes deleting the "controls installation and startup contractor" category and replacing it with "lighting control manufacturer representatives."	No	Staff do not find that company representatives for product manufacturers are likely to seek, or need, certification as an ATT. Staff find that controls installation contractors and equipment startup contractors are potentially likely to need or seek ATT certification, as it relates to installing controls for lighting and mechanical equipment that are subject to acceptance testing. For this reason, staff does not find that making the proposed change in terminology would be appropriate.

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75562.005	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs with multiple offices.	No	Staff considered the appropriateness of language specifying how Acceptance Test Employers (ATEs) are to logistically manage and staff multiple or remote offices, and found that it would not be appropriate to impose regulations on ATE business logistics at this time. Businesses may be successfully organized in any number of ways, without diminishing their effectiveness in performing their ATE duties. Modern communications tools enable a wide variety of effective arrangements between central and remote offices; imposing any set of specific, one-size-fits-all requirements on ATEs risks increasing costs without a commensurate benefit, and as there is no evidence of a problem relating to ATE logistics staff is not able to find that the proposed new regulations are necessary at this time.
75562.006	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and ATEs regarding insurance practices.	No	Staff considered the appropriateness of language specifying insurance practices for ATTCPs and ATEs, and found that it would not be appropriate to impose regulations in this area at this time. Businesses may pursue many different risk management and insurance strategies, and imposing any set of specific, one-size-fits-all requirements risks increasing costs without a commensurate benefit. As there is no evidence of a problem relating to ATTCP or ATE risk management or insurance practices, staff is not able to find that the proposed new regulations are necessary at this time.
75562.007	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests the addition of language to Section 10-103.1(c)3A and 10-103.2(c)3A relating to hands-on training.	No	Staff reviewed Section 10-103.1(c)3A and 10-103.2(c)3A, and found that the existing language requires an ATT to complete training that includes both theoretical and hands-on components before they may be certified. Accordingly, staff finds that no change is needed for this Section to address the commenter's concern regarding requirements for ATTs; staff finds that the proposed additional language would only serve to create redundancy and reduce clarity.
75562.008	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs and potential ATTs regarding verification of prior experience.	No	Staff considered the appropriateness of requiring specific documentation of prior experience, and found that it would not be appropriate to impose the proposed requirements at this time. ATTCPs are expected to develop criteria for determining that an applicant has sufficient knowledge and past experience to succeed in their training and certification program. The purpose of the experience requirement may be likened to class prerequisites for college courses: without a foundational level of knowledge and experience, the class will not be useful to the student. However, the purpose of this requirement is not to deem specific kinds of work documentation either "valid" or "invalid", and staff understands that not all work performed on-site in the construction industry is subject to rigorous and individual documentation. The ATTCP is expected to state in their application the method they will use to determine that students possess the experience necessary to succeed in offered classes, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75562.009	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding written exams for ATTs.	No	Staff considered the appropriateness of language requiring validation of tests for "rigor, reliability and lack of bias" along with requiring multiple versions of tests, and found that it would not be appropriate to impose regulations in this area at this time. The proposed regulations for psychometric evaluation, statistical analysis and pilot testing would impose significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. It is also not clear to staff that it is appropriate to hold examinations for Acceptance Test Technicians to standards applying to examinations for licensing of professional engineers. In principle there is a benefit to test question randomization and to maintaining a bank of potential test questions, but staff finds that specifying a particular number or amount of test questions and the percentage that must reflect a passing score for an exam is overly prescriptive and may not be appropriate to all examination types or approaches. The ATTCP is expected to state in their application the methods they will use to provide rigorous, unbiased examination of ATTs and to prevent tests from becoming compromised or being vulnerable to publication of questions, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.
75562.010	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding auditing of ATTs, and specifically that requires a higher audit percentage for newer ATTCPs.	No	Staff considered the proposed increased Quality Assurance (QA) audit criteria, and found that it would not be appropriate to impose the proposed requirements at this time. An increase to requiring a 6% QA audit rate for ATTs imposes significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. As there is no evidence of a problem relating to ATT performance (or specifically the performance of ATTs from recently approved ATTCPs) for which additional audits would represent a potential solution, staff is not able to find that the proposed regulations are necessary at this time.
75562.011	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs regarding auditing of ATTs, and specifically that requires a mandatory number of additional audits after a failed audit.	No	Staff considered the proposed increased Quality Assurance (QA) audit criteria, and found that it would not be appropriate to impose the proposed requirements at this time. An increase in audit rate for ATTs following a failed audit imposes significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. As there is no evidence of a problem relating to ATT performance for which additional audits would represent a potential solution, staff is not able to find that the proposed regulations are necessary at this time.
75562.012	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs, specifically to have an ethics policy and an equipment policy.	No	Staff considered the appropriateness of language requiring an ethics policy and, separately, an equipment policy, and found that it would not be appropriate to impose regulations in this area at this time. It is unclear whether a business with a written ethics policy necessarily behaves more ethically than a business without a written policy, and therefore unclear what benefit the regulation would ultimately provide. Equipment handling and maintenance are specified in the Reference Appendices as well as the industry standards, test methods and procedures that are incorporated by reference in the regulations; requirements and policies related to equipment handling by ATTs are expected to be included by ATTCPs in their agreements with their ATTs. As there is no evidence of a problem relating to ATTCP ethics or equipment handling, staff is not able to find that the proposed new regulations are necessary at this time.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75562.013	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that imposes new requirements on ATTCPs related to qualifications and experience.	No	Staff considered the appropriateness of language requiring ATTCP applicants to have ISO/IEC 17024 certification or, alternatively, to demonstrate past experience, and found that it would not be appropriate to impose regulations in this area at this time. Adding these criteria would risk unfairly limiting applicants to currently approved ATTCPs, which is contrary to the purpose of the regulations. As there is no evidence of a problem relating to ATTCP success or reliability that is dependent on these criteria, staff is not able to find that the proposed regulations are necessary at this time.
75562.014	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that specifies criteria for determinations relating to ATTCP applications.	Partially	Staff finds that the proposed language would introduce ambiguity in not defining criteria for applications to be considered sufficiently "rigorous", "detailed", or "reliable". In so doing, the proposed language only communicates that applications will be reviewed and evaluated; staff therefore finds it more appropriate to embody this intent by unambiguously stating that "Complete applications shall be evaluated by staff based on their contents."
75562.015	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment that specifies inclusion of summaries of audit results in annual reports.	Yes	Staff has substantively incorporated this request into Sections 10-103.1(d)2 and 10-103.2(d)2, which specifies (in part) that "[t]he annual report shall include a summary of all actions taken against any Acceptance Test Technician or Employer as a result of the complaint or quality assurance procedures described by the ATTCP as required under Section 10-103.1(c)(3)(D) and 10-103.1(c)(3)(F)."
75562.016	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Commenter requests an amendment providing 180 days for ATTCPs to demonstrate compliance with any substantive changes made to Title 24, Part 6 that would affect their program.	Partially	Staff has substantively incorporated this request into Sections 10-103.1(d)2 and 10-103.2(d)2, which specifies (in part) that "[t]he ATTCP shall have not less than six months following the adoption of an update to the Building Energy Efficiency Standards to prepare an Update Report." Staff found incorporating the specification into this Section to be more appropriate than creating a separate, subsequent Section as suggested by the text provided by the commenter.
75622.019	Nonresidential Administrative ATTCP	Adams Broadwell Jos	We want to ensure that the Commission has full ability to approve Acceptance Test Providers based on the quality of the program and not just based on their putting in a full application; the way that they revised it makes it sound like if you put in a full application you'd be approved, not that the Commission would then view the quality of that application and then decide if there would be a likelihood of having a successful program.	No	Staff has edited the language in 10-103-A(e)1 to avoid implying that approval of a complete application is automatic or ministerial, consistent with the commenter's comment. This Section now specifies that "[c]omplete applications shall be evaluated by staff based on their contents."
75622.020	Nonresidential Administrative ATTCP	Adams Broadwell Jos	Most critical for us is the requirement that any provider program that's going to certify Acceptance Testers, and trend them and test them, that their testing has to be professionally verified for validity, lack of bias, and reliability.	No	Staff considered the appropriateness of language requiring validation of tests for "rigor, reliability and lack of bias" along with requiring multiple versions of tests, and found that it would not be appropriate to impose regulations in this area at this time. The proposed regulations for psychometric evaluation, statistical analysis and pilot testing provided in the commenter's written comments would impose significant costs, and the comment letter is not accompanied by any analysis showing that the costs are balanced by benefits. It is also not clear to staff that it is appropriate to hold examinations for Acceptance Test Technicians to standards applying to examinations for licensing of professional engineers. The ATTCP is expected to state in their application the methods they will use to provide rigorous, unbiased examination of ATTs and to prevent tests from becoming compromised or being vulnerable to publication of questions, which allows staff to review proposed methods and determine whether the applicant's methods are sufficient as a part of reviewing received ATTCP applications.

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75622.021	Nonresidential Administrative ATTCP	Adams Broadwell Jos	We'd also like to see the percentage of acceptance tests that are field tested go up.	No	Staff considered the proposed increased Quality Assurance (QA) audit criteria, and found that it would not be appropriate to impose the proposed requirements at this time. An increase in the required QA audit rate for ATTs imposes significant costs, and the comment is not accompanied by any analysis showing that the costs are balanced by benefits. As there is no evidence of a problem relating to ATT performance for which additional audits would represent a potential solution, staff is not able to find that the proposed regulations are necessary at this time.
75622.023	Nonresidential Administrative ATTCP	National Lighting Contractors Association of America	All ATTCPs should serve as registration providers, and require submittal of forms by ATTs.	No	Staff find that ATTCPs currently operate in the manner suggested by the commenter, thus it is not necessary to make changes to the regulatory language at this time. To the extent that the commenter has specific changes to regulatory language that are more nuanced than indicated by their comment, they are encouraged to submit a fully developed proposal for the 2019 rulemaking.
75622.024	Nonresidential Administrative ATTCP	Rick Miller	Commenter recommends harmonizing ATTCP with Commissioning; specify when tests are required (or where tester is in-house or third party) based on criteria similar to Commissioning thresholds.	No	Staff finds that ATTCP is not intended to be a third-party program, and the Commissioning thresholds relate, in part, to needs for third-party work. Additionally, Commissioning is a design review, not a testing of installed equipment. Staff thus finds that making the change requested by the commenter would not be appropriate, and imposing a new requirement for an independent third-party would be outside the scope of the current rulemaking.
75622.026	Nonresidential Administrative ATTCP	Rick Miller	There needs to be some improvement on the level of enforcement of the Standards.	N/A	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language. Nevertheless, staff find that the inclusion of code cleanup changes aligns with this commenter's concern: by making the Standards cleaner, more streamlined, and more readable, it makes it easier for an inspector or for an enforcement person to read, understand and apply its requirements.
75622.028	Nonresidential Administrative ATTCP	Mr. Mchugh	Program has an inherent conflict-of-interest: commit perjury or lose your job. Would be better for building official to select instead of builder.	No	Staff has not proposed a change to this aspect of the ATTCP and HERS programs; these comments neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Staff encourages the commenter to submit a fully developed proposal for the 2019 rulemaking/
75622.031	Nonresidential Administrative ATTCP	Dave Dias	Commenter is unsure whether they support the specified percent of audits for ATTCPs under Sections 10-103.1 and 10-103.2..	N/A	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language.
75622.032	Nonresidential Administrative ATTCP	Mr. Costa	There is a void in enforcement tools; commenter would like online permitting	N/A	Staff agrees with facilitating online permitting, though finds the topic to be outside the scope of the current rulemaking.
75726.001	Non-Residential Administrative ATTCP	Taft Electric	Commenter opposes both the existing and proposed lighting alteration requirements, stating that the program "puts another huge burden on us legitimate contractors" and that "I hope this program just goes away, the sooner the better".	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75615.035	Nonresidential Administrative Definitions	Meg Waltner	Removing the definitions of computer room/data center may create loopholes.	Yes	Staff has reviewed the proposed definition of data center(s) and have made the recommended change to include computer rooms. Although the definition of data center(s) could be interpreted as including computer rooms, staff made the change to improve clarity of the Standards.
75622.043	Nonresidential ASHRAE	Meg Waltner	NRDC would like the Energy Commission to be more active in setting nonresidential standards.	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language.
75918.001	Nonresidential ASHRAE	Taylor Engineering	Delete the proposed requirement for isolation valves in instantaneous water heaters. Requirement is not energy related	No	Staff determined that regular maintenance is important to maintaining the performance of an instantaneous water heater and prolonging the lifespan of the water heater. Installation of isolation valves facilitates maintenance and therefore efficiency of the water heater, as regular maintenance prevents build up of scale that would otherwise reduce the efficiency of the water heater over time.
75237.003	Nonresidential ASHRAE Elevators	California Business Properties Association	The proposed elevator requirements could result in excessive cycling and premature wear of equipment and components. In addition to the added initial cost, this could lead to costly maintenance and servicing.	No	Elevator lighting is currently regulated by Title 24: elevator lighting power must be included in the LPD calculations or meet ASHRAE 90.1 2010 (which is 35 lpw). The proposal takes the lighting power a step further and reduces the maximum lighting power density to .6 watts per square foot. The analysis done on this measure showed it to be cost effective. The four principal elevator manufacturers (Otis, Kone, Schindler, and Thyssenkrupp) all have readily available products that satisfy the LPD and control requirements. Additionally, shut off occurs after 15 minutes of inactivity, meaning that equipment will only cycle when calls are made more than 15 minutes apart. This will not cycle the lighting and fan often enough to cause excessive wear or reduce component lifespan.
75501.001	Nonresidential ASHRAE DDC	ConSol	This new requirement may have significant impact to smaller buildings with operable windows and doors. Commenter also does not believe that existing buildings have window switches. Commenter asks several questions about how the requirement will be implemented, applied, and enforced.	Yes	Staff has amended the capacity threshold for air-side systems to be 300KBTU/hour instead of 10 brake horsepower, consistent with the capacity threshold for water-side systems. 10 brake horsepower is not as indicative of mechanical cooling capacity as a KBTU/hour rating, and would be difficult to determine in advance of a project.
75501.002	Nonresidential ASHRAE Elevators	ConSol	Elevator manufacturing standards for lighting and fans will need to be changed to meet the new requirements. New costly controls will be needed to turn the interior lighting and fans off when the elevators are not occupied. This could result in excessive cycling and premature wear of these equipment and components. In addition to the initial added cost this could lead to costly maintenance and servicing.	No	Staff finds that the CASE report addresses the concern: the elevator manufacturers identified in the report already have the capabilities needed for compliance included in their offered elevator models. The standards specify a 15-minute standy time before the automatic shutoff is applied, which will prevent cycling during busy call periods. Staff therefore do not find that the proposed standards will cause costs in excess of those stated in the CASE report, or cause excessive component wear.
75622.036	Nonresidential ASHRAE Elevators	Matthew Hargrove	The proposed elevator requirements could result in costly maintenance and servicing.	No	Staff does not find that the requirements for elevators would cause any undue or excessive wear on components, and does not find that any increased risk of maintenance or servicing is created by the requirements.
75622.038	Nonresidential ASHRAE Elevators	Yoolanda Williams	Section 120.2(f)2. "Exception 3 references an override signal. For clarification, can you provide the definition and the function of an override signal in the applications referenced?"	N/A	Staff reverted the proposed changes to the language to accommodate another commenter. The intent of these proposed changes were to clarify existing requirements, not to impose new requirements. Additional guidance will be provided in the compliance manuals and other forthcoming education and outreach activities.
75622.041	Nonresidential ASHRAE Elevators	George Nesbitt	15 minutes is a long time for a light to stay on after nobody is there. I like short off periods rather than long.	No	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Mr. Nesbitt mentions that he perfers a shorter period of inactivity for shutoff controls but did not provide any justification or identify a new time limit.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75622.042	Nonresidential ASHRAE Escalators	George Nesbitt	Escalators should turn completley off when not used.	No	Commenter mentions that given today's technology, escalators should be capable of shutting off when not in use. However, no justification was provided for this reasoning; the design or operation of some escalators may make them more costly to fully stop and start than to keep them in motion at a low rate of speed. The Standards require that the escalator slows down to a minimum speed but not completly to a stand still, consistent with the American Society of Mechanical Engineers' (ASME) standard A17.1/CSA B44 Handbook (2013).
75622.068	Non-Residential Demand Response	Matthew Hargrove	Commenter (Matthew Hargrove) notes that disaggregation of loads is rare in many types of commercial settings, and this might be a burdensome mandatory code and we also think that putting in monitoring equipment doesn't in any way impact energy efficiency.	Partially	The metering recording requirement is removed from the proposed language. Monitoring equipment is not a requirement for disaggregation of circuits, instead the electrical power distribution system must be designed so that loads are separated and therefore monitoring the electricity use of load types is possible rather than impossible.
75622.07	Non-Residential Demand Response	Jim Benya	Commenter notes that the cost of electrical energy monitoring is significant. Secondly, he notes it is important to evaluate the impact of the disaggregation of electrical circuit requirement on tenant improvements.	N/A	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language. Nonetheless, staff has considered the impact of the disaggregation of electrical circuit requirement on tenant improvements, and the final language in Section 141 is developed with this in mind.
75622.071	Non-Residential Demand Response	PG&E	Commenter notes that the Title 24 submetering requirement is not a utiltity provided function.	N/A	Staff notes that submetering is not required by the Final Express Terms.
75622.072	Non-Residential Demand Response	PG&E	Commenter notes that it is important for a building operator to know where and how much energy is used in the building.	N/A	Staff appreciates the support of the requirements relating to separation of electrical loads.
75622.073	Non-Residential Demand Response	RNM Engineering	Mr. Miller noted the requirement of Section 130.5 for Service Meters especially the word "resettable". He noted that most utility meters are not resettable and therefore this requirement forces the owner into installing a second meter in series with the utility meter to get the resettable capability.	Yes	Staff removed the word "resettable".
75622.074	Non-Residential Demand Response	RNM Engineering	Mr. Miller also notes that the new paragraph on disaggregation of loads that allows additive and subtractive measures, also includes a portion of a sentence that allows a 10 percent aggregation of load. These are two totally different concepts, and I suggest those be in separate paragraphs.	Partially	Staff has revised the language to more simply allow 10% of a given load to be of any type, consistent with the commenter's comment. The additive and subtractive method is removed from the language.
75622.075	Non-Residential Demand Response	Matthew Hargrove	Commenter (Matthew Hargrove) requests the Energy Commission to look into this (Service Metering and Disaggregation of Loads requirements) with the PUC. The commenter's understanding is that there are certain circumstances where a building owner is not allowed under some of the regulations to submeter certain tenants	No	Staff notes that submetering is not required by the Final Express Terms; staff have clarified the language in Section 130.5(a) to better clarify its requirements, consistent with the commenter's comment.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75501.004	Non-Residential Demand Response Alterations	Requirements for ins	Requirements for installing shut off all lighting controls in small offices, and classroom can actually increase the cost of lighting retrofits. In many of these occurrences, people are doing very well in manually turning off lights. With the new lighting shut off control, there will be a time delay for the sensors to turn off the lights which will have the opposite effect of savings. Since sensor control are being required, there are no or very few incentives or rebates for them which will make installing these sensors costly. The proposed regulation should be changed to a performance measure not a mandatory measure to let building owners decide how well their people are using manual controls.	No	The comment talks about new construction and alterations. For lighting alterations, there are different triggers for lighting control requirements. People can still manually turning off lights by using the required manual control to turn off the light. In case people are in a hurry or forget to turn off lights manually, the occupant sensing device will turn off lights 20 minutes after the space is vacant. If there is only a manual control and people forget to turn off lights manually, the lights will stay on until the next person turns it off. If there is only an automatic control, then the commenter is correct that an additional 20 minutes of wasteful lighting would occur each time folks left the room. This is why both manual and automatic controls are required in the regulations: they support each other. The shut-OFF controls requirement has been proven to be cost effective at saving energy, per its adoption in past revisions of the Standards.
75501.005	Non-Residential Demand Response Alterations	In addition, turn OFF	In addition,] T[t]urn OFF occupant sensing controls now require to turn OFF after 20 minutes which conflicts with Title 20, which requires shut off within 30 minutes.	No	Staff does not find the commented conflicts of the Title 24 requirement to Title 20. The 20 minute is a setting requirement on setting up the sensor during installation, and the other is a maximum time delay product feature and capability allowed by Title 20. Setting up 20 minutes instead of using the maximum factory setting of 30 minutes can save 10 minutes of the connected lighting energy, which was shown to be cost effective at saving energy.
75501.006	Non-Residential Demand Response Alterations	130.1(c) Shutoff Cont	This section states that all lighting is to be controlled for shut off. The California Building Code states that as long as the building is occupied, the entire exit path is to be illuminated. Occupancy sensors alone will not meet the intent as only part of the exit path could be illuminated.	Yes	Staff removed the phrase "during occupied times" from Exception 1 to Section 130.1(a)1; this Exception specifically allows for continuous lighting of means of egress. Section 130.1(c), which specifies shutoff control requirements, has a matching Exception for continuous lighting of means of egress.
75501.007	Non-Residential Demand Response Alterations	CBPA	[Regarding Exception 2 to Section 141.0(b)2I in Version 9,] this change allows both one-to-one and many-to-few whole fixture replacements to avoid triggering Code as long as the total wattage is at least 20% below that of the original fixtures. Typical high bay jobs along with many other retrofit types will greatly benefit from this Exception. [Regarding Exception 2 to Section 141.0(b)2J in Version 9,] this language applies regardless of the number of fixtures that are modified. It allows delamping, kits that convert fixtures from fluorescent or HID to LED or other, and virtually all the other fixture retrofits that we typically perform to be installed without triggering Code so long as the new wattage is at least 20% below the original wattage. This should be easily accomplished in the vast majority of cases; 20% savings is possible in almost every circumstance.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff notes that this means that projects achieving the percent reduction threshold will no longer completely avoid triggering code; finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.
75501.008	Non-Residential Demand Response Alterations	CBPA	[Regarding the clarifying language in Section 141.0(b)2J related to lamp-only and ballast-only replacements,] this simply means that Code is not triggered for lamp-only replacements (e.g., screw-in or pin-based incandescent or other to LED or other technology) as well as ballast-only replacements. This covers a large percentage of the retrofits we do and gives relief to lighting maintenance companies as well.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75501.009	Non-Residential Demand Response Alterations	CBPA	[Regarding changes to Section 141.0(b)2K,] retrofitters typically do very few actual wiring alterations so we believe these changes should have minimal impact. There's also an Exception for modifications strictly limited to the addition of lighting controls.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.

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75501.002	Non-Residential Demand Response Metering	CPBA	Mandatory requirements for electrical usage recording equipment and how long the recorded data should be retained are new added requirements. This measure adds cost to metering if utility "smart meter" is not installed. Service electrical metering is costly without directly impacting energy savings since there are no direct savings from monitoring data especially when there are no qualified individuals to interpret the data. Disaggregation of loads is rare in existing building and adding monitoring equipment is very difficult and very expensive. With the advent of SMART meters and the continue increase in installation we believe this should be a function of the public utilities and not the commercial building industry.	Partially	The metering recording requirement is removed from the proposed language. Monitoring equipment is not a requirement for disaggregation of circuits, instead the electrical power distribution system must be designed so that loads are separated and therefore monitoring the electricity use of load types is possible rather than impossible.
75501.003	Non-Residential Demand Response Metering		This revision requires Demand Response controls if alterations larger than 10,000 sq. ft. This may add significant cost to alterations over 10,000 sq. ft.	Partially	Staff removed this language as redundant with the language relating to lighting alterations, which already specifies where DR controls are required, as this language was not intended to apply DR to projects beyond those already required to include demand response.
75552.008	Non-Residential Demand Response Metering	Engineering Enterpris	Section 130.5(d) requirement increases the cost to a project and from my experience provides little benefit.	No	Staff finds that several types of plug loads, including portable lighting, printers, copy machines and document scanners, televisions and projectors, fans and space heaters, coffee makers, etc. are likely to be found in an office environment and likely to either be left on or have standby power consumption, and in aggregate represent significant power consumption. Staff therefore finds that using controlled receptacles for these devices can provide significant benefit.
75517.004	Non-Residential Demand Response OCST	NEMA	Suggest to change the wording of Section JA5.3.1 in Joint Appendix JA5 to reflect the understanding that networked systems may satisfy the requirements of JA5. The commenter also suggests CEC staff to review Section JA5.3.1 and make grammar and punctuation edits as needed because it has become somewhat difficult to follow due to the number of edits proposed.	Partially	Staff reviewed the grammar of Section JA 5.3.1 and incorporated the commenter's suggestion of allowing Ethernet as an allowed non-proprietary communications protocol for nonresidential, high-rise residential, and hotel-motel buildings. Staff did not find that Ethernet was an appropriate option for low-rise residential construction. Staff also did not find that adding the suggested language describing a reason for complying with the stated communications standards to be appropriate, as it reduces the clarity of the regulatory requirement stated within the Section without having any regulatory effect.
75517.003	Non-Residential Demand Response Thermostat	NEMA	NEMA believes the existing definition can be improved upon to clarify this allowance. Suggest to add "or networked system" to the "Thermostat" definition to Section 100.1	Partially	Staff edited the definiton of "thermostat" to add the phrase "or system", consistent with the commenter's request. Staff did not add the word "networked" to the definition, as staff found that doing so would unnecessarily restrict the configurations of control systems to "networked" systems, as well as introduce ambiguity regarding what qualifies as a "networked" system.
75622.001	Nonresidential DHW Insulation	George Nesbitt	The section on plumbing insulation, Section 120.7, is pretty much redundant to everything that is in 110, so it seems like it's got the same table essentially with insulation requirements. Most of those requirements are pretty redundant to what's in the mandatory sections in 110.1 and I think .3, cover plumbing. it seems like there's no reason for something like that in the Code to be repeated in another section as opposed to just saying, you know, you need to meet the requirements of that other section.	No	Staff does not find the contents of Section 120.7 to be redundant with Section 110.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75529.001	Nonresidential DHW IWH	Air-Confitioning Heating & Refrigerating	Commenter asserts that the additional requirement for storage water heater over 55 gallons is unjustified as "CEC consider it equivalent to instantaneous water heaters", and that the ISOR did not explain why added requirements are imposed on storage Water Heaters over 55 gallons in size.	No	The CEC does not consider condensing storage water heater (over 55 gallons) and IWH to be equivalent, and it is not clear how AHRI arrives at this assertion, especially as their letter describes a typical storage water heater as possessing a 0.74 Energy Factor compared to the typical EF for instantaneous units of 0.82. In addition, the requirements for storage water heaters above 55 gallons in size are reduced compared to storage water heaters below this size, in recognition of the higher federal minimum standard that they are required to meet (compared to other storage water heaters). AHRI's assertion that the requirements are "increased" for these units can only be understood in relation to the incorrect assertion that they have been or would be treated as "equivalent" to an instantaneous heater.
75529.001	Nonresidential DHW IWH	Air-Confitioning Heating & Refrigerating	The CASE report did not consider the cost of over 55 gallon option, which is more complex than the standard storage water heater option.	No	The storage water heater prescriptive options are optional alternatives to the primary proposed prescriptive option of IWH; cost benefit analysis of additional, elective options is not required. However, staff also finds that the current regulations require installation of a drain and electrical outlet where a water heater will be installed regardless of the type of water heater that is ultimately chosen for the construction, and that the remaining requirements of either pipe insulation or compact distribution are no more complex for condensing water heaters than they are for "standard" storage water heaters: these elements are included in the CASE analysis of the proposed water heater measure.
75529.001	Nonresidential DHW IWH	Air-Confitioning Heating & Refrigerating	Commenter asserts that the proposal underestimates the complexity of pending federal changes in water heater efficiency ratings.	No	Staff acknowledged that there are concerns about the new Federal Water Heater testing procedure and the associated complexity in integrating the new efficiency descriptor Uniform Energy Factor (UEF) into the performance calculation. While these changes are underway, they are unrelated to the current proposal. The proposal does not include specification of UEF values, but states only that installed water heaters must comply with applicable appliance efficiency regulations. The Department of Energy is currently undergoing a rulemaking proceeding to develop factors that will convert the federally mandated Energy Factor into UEF metric that results from the new federal test procedures. The Energy Commission intends to utilize the conversion factors the Department of Energy has committed to publishing, while simultaneously developing new calculation methods using UEF for the CBECC-Res compliance software and ACM Reference Manual. Additionally, while there are multiple draw patterns in the new test procedure, the draw patterns that are relevant to predominately used residential water heaters are limited (≥4 gal/min GPM for instantaneous and 51≤FHR≤75 gallons for storage water heater), which greatly reduces the complexity in developing the new water heating calculation method.
75517.001	Non-Residential Electrical Power Distribution	NEMA	If projects use a utility meter to comply with the requirements in section 130.5, rate payers (or building owners) should be allowed to access the data so that the rate payer may take actions to address their energy use in real time (or near real time) rather than waiting until after receiving their utility energy bill. NEMA proposes modifying the first exception to this section to improve accessibility of the metering data the requirement is intended to yield.	No	Staff finds that the majority of utility smart meters provide this functionality, commonly through an app or other software installed on the customer's phone, tablet, or personal computer, diminishing the need for explicit regulation. Additionally, staff finds that using the term "readily accessable" introduces ambiguity and risks prohibiting placing metering equipment within lockable rooms or cabinets, which can lead to safety and security concerns. Staff find that the requirements of Table 130.5-A are sufficient for accomplishing the goal of data transparency to the user, and that the additional, more prescriptive requirements recommended by the commenter are not necessary at this time.

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75517.002	Non-Residential Electrical Power Distribution	NEMA	Disaggregation of electrical circuits does not save energy or provide any value, unless monitoring of the loads is also provided or required. Additionally, disaggregation of circuits is more costly in most cases than submetering or monitoring of electrical loads. Therefore, it is suggested that the metering and measurement option be listed prior to the disaggregation options so that it is shown more prominently over the disaggregation options.	Partially	Staff edited the Section title to directly combine the noted topics, proposing the phrase "Separation of Electrical Circuits for Electrical Energy Monitoring". In doing so, this makes more clear the connection between the two topics and avoids implying a ranking or ordering. Staff did not find that requiring "[i]nstallation of a complete metering and measurement system [...] which at a minimum measures and reports the loads called for in Table 130.5-B" would be appropriate, as staff would need a cost analysis or similar data regarding installation of this additional equipment in order to consider adopting the requirement. If the commenter has data that would show this to be the case, staff encourages the commenter to submit a complete proposal for the 2019 code cycle.
75546.001	Non-Residential Electrical Power Distribution	Taylor Engineering	We recommend reducing the number of categories required to be disaggregated for electrical energy monitoring. For example, combine HVAC and plumbing electrical load types into one category. This requirement from the 2013 language and the proposed 2016 language will add cost if the loads that need to be disaggregated would otherwise be on the same panel, such as plumbing and HVAC. Eaton is expected to soon have a panel with removable bus-bar covers so that different parts of the same panel could be metered, but there are no known equals. For a large emergency power system, there may be up to 20 categories of load because the emergency side of the ATS would have to be disaggregated too.	No	As the categories in Table 130.5-B are not proposed to be changed in the 2016 Standards, staff find that the 2016 Standards do not "add cost" relative to the 2013 Standards, and the 2013 Standards were adopted based on findings that the benefits of the proposed requirements exceeded the costs. As the commenter does not provide or suggest any rationale for determining which load types would be appropriate to merge, staff finds that space heating and cooling and, separately, water heating are significant and distinct energy demands within buildings and therefore beneficial to be able to separately measure.
75546.002	Non-Residential Electrical Power Distribution	Taylor Engineering	We recommend relaxing the maximum total voltage drop requirement. The 2013 language limited the voltage drop in feeders to 2% and branch circuits to 3%. The proposed 2016 language combines the two into a single maximum of 5%. Limiting branch circuits to 3% is very difficult and may significantly increase wiring costs. For example, lighting circuits are often much longer than 117 feet. Oversizing that wiring beyond #10 AWG is not practical. Also, circuits are often not loaded to their full potential.	Yes	Staff understands the commenter to be supporting the proposed change to the voltage drop requirement, as the commenter notes that the proposed language no longer restricts branch circuits to 3% but instead provides an overall limit of 5% and does not otherwise suggest any way in which the requirements should be "relaxed". Staff appreciates this expression of support. If, instead, the commenter is requesting that the required 5% additionally be made larger, staff finds that the 5% requirement is feasible, cost effective, and consistent with other standards.
75546.003	Non-Residential Electrical Power Distribution	Taylor Engineering	We recommend reducing the requirement for controlled receptacles in office spaces. While we agree that, if used properly, switched receptacles may reduce energy use from plug loads at night, there is a significant associated cost increase and this requirement may not necessarily result in real energy savings if not used properly. The inconvenience of having power shut off for computers at night, for example, may lead users to simply circumvent the intent of this requirement, either by having the schedule changed to never turn off or by only using uncontrolled receptacles (and thereby possibly risking overloading those circuits). No energy would be saved if the controlled receptacles aren't used.	No	The commenter is not specific as to what way or by what amount the requirements for controlled receptacles should be reduced. Staff finds that the proposed requirements are feasible and cost effective, and are appropriate for enabling energy savings in an office setting. Staff also finds that appropriate configuration of equipment, including appropriately identifying which equipment should be connected to uncontrolled receptacles, is sufficient to avoid the circumstance noted by the commenter.
75552.007	Non-Residential Electrical Power Distribution	Engineering Enterpris	Why voltage drop is a requirement of Title 24? This is already a requiremetn in the NEC and CEC.	No	Voltage drop requirement for feeders and branch circuits is mandaroty in accordance with NEC and CEC. Furthermore, voltage drop requiremetn is a requirement in American National Standard, ASHRAE 90.1-2013. The voltage drop requirement of the Energy Standards is to ensure connected equipment is operated optimally and efficenctly within the design voltage level for a code compliant system, and to create consistency with other standards and code requirements.

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75825.001	Non-Residential Electrical Power Distribution	Eaton	For the dry type transformer defintion, limit the output voltage to 600V and revise the cooling medium to liquid instead of oil.	No	Low-voltage dry-type distribution transformers are federally regulated appliances under 10 CFR 431.192, and are regulated in California under the Title 20 Appliance Efficiency Regulations. The definition of "low-voltage dry-type distribution transformer" in Title 24 necessarily duplicates the definitions in these applicable laws, as the Energy Commission is federally preempted from establishing an alternative definition. Staff therefore finds that editing this definition would not be appropriate.
75882.001	Non-Residential Electrical Power Distribution	Schneider Electric	Section 130.5(b) – Separation of Electrical Circuits for Electrical Energy Monitoring: add an exception that provides compliance for an installed metering system. We agree with the 15-Day language that clarifies the intent of this section is to require loads be separated for the convenience of measurement and the future addition of meters. However, we respectfully submit that metering systems installed at the time of construction also meet the intent of the section. In fact, an installed metering system goes beyond the intent of the requirement and will actually reduce energy usage by providing actionable and timely energy consumption data to the building owner and operator. Therefore, it is respectfully suggested that an exception be given to buildings that have a metering system installed.	No	Staff finds that installation of a complete metering and measuring system would meet the requirements of the existing Section language provided that loads were separated in accordance with Table 130.5-B, meaning that the proposed Exception only states what the current regulatory language already allows. That is, a system able to measure each of the loads demonstrates that each load can be separately measured, thereby showing that the building complies with this Section's requirements. Therefore, staff finds that adding a exception is unnecessary and would be redundant, and therefore is not appropriate.
75896.001	Non-Residential Electrical Power Distribution	Gary Fox	Neither of the terms "service" or "feeder" (in Section 130.5) is defined.	No	The term "service" is defined in Section 100.1. As noted at the end of Section 130.5, terms and phrases not found in Section 100.1(b) shall be defined as specified in the California Electrical Code. The definition of the term "feeder" is not in Section 100.1 but is found in the California Electrical Code.
75896.002	Non-Residential Electrical Power Distribution	Gary Fox	Assuming the definitions of (service and feeder of) the California Electrical Code, permanently installed metering would be required throughout a facility, much more than the true intent of this requirement.	No	The commenter misunderstands the effect of the regulatory language: the metering required under Section 130.5(a) can be installed either at the service or at the feeder . It is not mandatory to install the metering at both the service and the feeder. Staff therefore finds that no change to the language is needed to accommodate this comment.
75896.003	Non-Residential Electrical Power Distribution	Gary Fox	For high-rise residential occupancies, the identity of which loads should be metered is not clear. It would be reasonable for the Commission to require metering of common building loads, maintained by the building owner. If that is the case, the requirements should be clarified to indicate that common building loads are to be metered.	No	The regulations allow for installation of metering either at the service or at feeders in order to leave decisions about which loads to aggregate for metering purposes to be left to the designers of the building's electrical system. Staff does not find it appropriate to require aggregating loads that building designers or owners may wish to keep separate. As the exising language otherwise provides the flexibility requested by the commenter, staff finds that no change to the language is needed.
75896.006	Non-Residential Electrical Power Distribution	Gary Fox	3. "Demand" refers to the amount of load averaged over a period of time. "Instantaneous kW" is not an average measurement. It makes no sense to combine these words. "Demand" should be deleted. Refer instead to "power" or "kW".	No	Staff finds that the term "instantaneous demand" is a common term as it relates to electricity and power, acknowledging that "demand", taken separately, is also a term that has a specific meaning in relation to electricity. Staff does not find that the term "instantaneous demand" is ambiguous in its context in Section 130.5(a), and thus that no change is needed.
75896.007	Non-Residential Electrical Power Distribution	Gary Fox	4. Exception to 130.5(a) refers to a "utility-defined period" whereas Table 130.5-A refers to "user-definable period". Both portions should refer to the same thing. "Utility-defined period" could refer to a demand interval, or one of many periods defined in the rate structure (e.g. "peak," "partial-peak," "off-peak," "summer, "winter"); the user should be able to define the period for which he wants to use available energy information.	No	The Exception is intentional in specifying "utility-defined" instead of "user-defined", given that a utility-provided meter may have tailored functionality that matches the business arrangement between the utility and the customer or client. Staff does not find that changing the language to "user-defined" and removing the ability for utilities to negotiate and establish their relationships with their clients to be appropriate.

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75896.008	Non-Residential Electrical Power Distribution	Gary Fox	5. Metering records are available from the utility, more so than something that "indicates" kW and kWh. A utility metering system that supplies measurements of energy and power is still useful and should satisfy the intent.	No	Staff finds that the language is already consistent with the commenter's request. The required minimum functionality is that the meter shows both the instantaneous demand, or power, and the electricity used over a period of time, or energy. Thus, a meter that provides both of these values satisfies the regulations.
75956.001	Non-Residential Electrical Power Distribution	RNM Engineering	Change "Electrical Power Distribution System" to all caps to match the format of this section.	Partially	Staff have made this correction.
75956.002	Non-Residential Electrical Power Distribution	RNM Engineering	Revise from "authorized person" to "authorized personnel" in the definition of Institutional Tuning.	Partially	Staff have made this correction.
75961.001	Non-Residential Electrical Power Distribution	Behzad Eghtesady	In Section 130.5(a) insert the word "or Feeder" before "Electrical Metering so the title will read: "Service or Feeder Electrical Metering". Also insert the word "feeder" after Service in the heading of each column in Tables 130.5-A and 130.5-B so it would read as "service or feeder".	No	The Section 130.5(a) requirement applies to Service metering. Metering installed at feeders is permitted to be used to meet the requirements for metering of the electrical service, but the requirement is still fundamentally a requirement that the electrical service be metered. For this reason, staff finds that adding the word "feeder" to the title of the Section would not be appropriate as it would not be accurate in characterizing the requirement. Similarly, Tables 130.5-A and B apply based on the total rated kVA of teh service provided to the building; adding the word "feeder" risks implying that the requirements can be avoided by separating the service to the building into individual, lower-rated feeders serving the same occupancy. Staff therefore finds that adding the word "feeder" to the table headings would not be appropriate.
75961.003	Non-Residential Electrical Power Distribution	Behzad Eghtesady	Commenter suggests to insert within the title and first paragraph of Section 141.0 the reference to "Electrical Power Distribution Systems".	No	The title and the first paragraph of Section 141.0 indicates the scope of the Section, specifying that alterations to buildings are covered by Section, and also alterations to outdoor lighting (which may not be part of a building) and illuminated signs (which also may not be part of a building). The title and scope do not separately specify covered parts or systems of the building, such as the buildings HVAC, water heating, or lighting systems; staff therefore does not find that separately specifying the electrical power distribution system would be appropriate, and finds that doing so would risk confusion regarding why this system is specified but other systems are not.
75961.004	Non-Residential Electrical Power Distribution	Behzad Eghtesady	Reinstate the reference to section 130.5 in section 141.0(b)2F, unless the intended revision to section 141.0(b)2Piv is to not require any compliance unless the entire building is to be rewired.	No	Section 141.0(b)2F specifies requirements for lighting systems, not power distribution systems. Staff therefore finds that removing reference to requirements for power distribution systems from this Section is appropriate, noting that the requirements for alterations of power distribution systems are specified in subsequent Section 141.0(b)2P.
75961.005	Non-Residential Electrical Power Distribution	Behzad Eghtesady	Commenter suggests inserting "or Feeder" into Section 141.0(b)2Pi.	No	Staff finds that a feeder line can be replaced without altering installed metering equipment, and thus that adding "or feeder" risks creating a circumstance where functional metering equipment would need to be removed, discarded, and replaced. Staff finds that the requirements are cost effective when a new meter is already part of the project, as the specifications only require that the new meter possess certain functions, but would not be cost effective for projects that would not otherwise include installation of new metering equipment. Staff therefore finds that adding the suggested language would not be appropriate.

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75961.006	Non-Residential Electrical Power Distribution	Behzad Eghtesady	Commenter suggests inserting "feeders for the first time tenant or undeveloped space" and "or new feeder" into Section 141.0(b)2Pii.	No	Staff finds that a feeder line can be replaced without modifying the branch circuits further "downstream" of the feeder, whereas separaton of electrical circuits requires specific configuration of the entire building's circuitry. For this reason, staff does not find that applying requirements for separation of electrical circuits where new or replacement feeders are installed but the rest of the power distribution system is unaltered would be appropriate.
75961.007	Non-Residential Electrical Power Distribution	Behzad Eghtesady	Commenter asks, "The current language is not clear. Is the intent of this section to require compliance when a new receptacle circuit is installed or if the entire building wiring is replaced or is new? Please note that in existing nonresidential, high-rise residential or hotel/motel buildings it is rare to see replacement of the entire building power distribution system. It is common to install entirely new receptacle circuits, add a feeder, upgrade a panel or change the building service, but not replace the entire building power distribution system." Commenter suggests inserting "circuits" and "or new circuit" to Section 141.0(b)2Piv if the language is intended to apply in the former case.	Partially	Section 141.0(b)2Piv intentionally applies to installing an entirely new electrical power distribution system, or to the complete replacement of an electrical power distribution system. A partial or minor modification of the electrical power distribution system such as installing one new circuit or replacing one existing circuit is not intended to trigger power distribution system requirements. Staff finds that requirements for controlled receptacles would not be appropriate to apply controlled receptacle requirements to projects installing or modifying individual circuits, given that the configuration of existing buildings can be unpredictable and may make application of these requirements infeasible.
75396.001	Nonresidential Envelope	Steel Framing Alliance	The mandatory insulation requirements should be specific to each framing system. We should reduce the mandatory minimum insulation requirement for metal framed buildings to no longer have continuous insulation requirements. Our suggestion is to focus on the cavity since this is the least accessible part of the assembly after construction. In simplest terms, the language could be expressed separately for each assembly type so that the cavity is filled with insulation or the assembly meets an overall U-factor based on the type of framing. This would require adding language for a U-factor for steel equivalent to an R-13+0 or R-19+0 as the minimum required insulation level. Wood and steel would then have their own requirements (as do mass walls in the current standards). We suggest this same approach for Section 150 (c) and 120.7.	Partially	Metal is a conductor, and continuous insulation provides a thermal block which prevents the transfer of heat energy through the metal that would otherwise occur. Staff therefore reduced but did not eliminate the continuous insulation requirement: staff raised the u-factor for metal framed buildings from 0.105, which is equivalent to R13 cavity insulation with R5 continuous insulation, to a u-factor of 0.151, which is equivalent to R13 cavity plus R2 continuous insulation. This also establishes a requirement specific to metal-framed buildings, consistent with the commenter's request. Staff did not find that allowing a complete absence of a thermal break would be appropriate.
75872.001	Nonresidential Envelope	Steel Framing Alliance	Requesting to change the language in the Section 120.7(b)7 for Demising walls in the energy Standards. The claim is that there are different assemblies which can meet the demising walls other than what is described in the Energy Standards	Yes	Staff changed the language for demising walls to allow any assembly to be built for a demising wall as long as it meets the required U-factor.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75902.001	Nonresidential Envelope	Airex Manufacturing, Inc	Commenter requests adding language to prohibit use of adhesive tape products for insulation protection	No	Although the commenter asserts that this change would be a clarifying change, there is not currently a prohibition on adhesive products in the Standards nor a definition of "adhesive tape". The change would therefore be a substantive change to the regulations and would require proper vetting through appropriate stakeholders as well as a more robust demonstration of its impacts, consistent with other code proposals. It can be considered as part of the 2019 code update cycle. The rationale for the prohibition includes reference to language in 150.0(j)3: rather than prohibit adhesive products, staff have edited this language to remove the inconsistency in a manner consistent with simplifying and streamlining the Standards, as well as addressing other comments relating to pipe insulation. Language has been added to the compliance manual as a recommendation to not use adhesive tape as insulation protection for the reasons stated by the commenter, as Staff find that informing the public of the pros and cons of adhesive products is more appropriate than a complete prohibition of such products. Commenter's cost savings relies on retaining and re-using insulation after servicing pipes, and asserts that 1/7th of California homes have their piping serviced annually; other commenters have stated that it is common practice to completely replace pipe insulation when pipes are serviced or replaced, regardless of type or condition, and staff find the estimate of the number of homes serviced annually to be unreasonably high. Staff do not feel that the comment presents a sufficiently vigorous analysis to completely prohibit all products that use adhesives, and find that adding such a prohibition would add complexity to the standards that is unlikely to provide a commensurate benefit.
75904.001	Nonresidential Envelope	Metal Building Manufacturers Assosiation	Reinstate the existing 2013 Exception 2 to Section 140.3(a)1Aia which said "Metal building roofs in Climate Zones 3 and 5 are exempt from the requirements if the roof assembly has a U-factor of 0.048 or lower. "	No	This exception was removed because the new 2016 prescriptive requirement for metal building roofs (Table 140.3-B and Table 140.3-C) has a lower U-factor requirement. Metal building roofs with a U-factor of 0.048 were found to perform equivalently to a cool roof as specified in this Section, however as the prescriptive requirements for metal roofs has been updated, these roofs are now expected to use Exception 3 and Table 140.3 in the same manner as other roofs. This change also makes treatment of roofs more consistent within the regulations.
75904.001	Nonresidential Envelope	Metal Building Manufacturers Assosiation	JA-4 Table 4.2.7, add the Liner System from ASHRAE 90.1-2013 to the Table.	No	Energy Commission staff in contact with the industry was informed that the Liner System was not an insulation method which is used in California, and staff determined that it is therefore premature to add this products to these tables at this time. The product is able to be installed using the performance approach.
75904.001	Nonresidential Envelope	Metal Building Manufacturers Assosiation	For metal building walls, to be consistent with ASHRAE 90.1-2010 and to give as many validated options as possible in the Joint Appendices, there are two single layer systems, i.e. R-16 and R-19, that should be added to Table 4.3.9. The U-factors of these two systems given in Table A3.2 of ASHRAE 90.1-2010 are 0.093 and 0.084, respectively.	No	This comment was provided at the hearing for adoption of the Standards, and was provided with no substantiating analysis or materials. Rather than delay the rulemaking proceeding, the Energy Commission will use its authority in Section JA4.1.1 to consider this request to approve these alternative, equivalent U-factors for the two types of construction assemblies described in the comment, which will allow them to be included following appropriate review and analysis by staff to establish that they are equivalent to the insulation requirement.
75918.002	Nonresidential Envelope	Taylor Engineering	Section 120.2 - The sentence should be changed to reference Sections 120.2(a) through 120.2(k) to account for the sections on DDC and optimum start/stop controls.	Yes	Staff has made this correction.

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75622.055	Nonresidential Envelope Cool Roofs	George Nesbitt	in the Table B, Low Slope Cool Roofs are required in Climate Zones 1 through 16, and then I was noticing in the Table C, which is the Residential Nonresidential Table, that Low Slope Cool Roofs are only required in Climate Zone 9, 10, 11, and then 13 through 15. Climate Zone 12 seems to really be missing, which is a pretty heavy cooling climate. And then what I don't understand is, if you have a steep slope roof on the Residential Nonresidential Buildings, cool roofs are required in Zone 2 through 15. So I would say generally a low slope roof has a lot more solar access and solar gain than even a steep roof. So there seems to be maybe a slight disconnect or what?	No	Commenter is misunderstanding the differences between requirements for single-family residential, low-rise residential, and high-rise residential. These values were found to be appropriate for each scenario when they were adopted, per the documents relied upon identified for those rulemakings. As the commenter does not request any specific change to the regulations, staff has not made a change related to this comment.
75622.053	Nonresidential Envelope HPA/HPW	Meg Waltner	We should be adopting the highest [efficiency] levels found to be cost-effective in the case report.	No	Staff finds that the proposed standards strike an appropriate balance between efficiency, cost, impacts on business and small business, stakeholder concerns, and other effects required by law to be considered in the formulation of building energy efficiency standards, for the reasons stated in the Documents Relied Upon, the Initial Statement of Reasons, and the Final Statement of Reasons. Staff does not find that maximally pursuing efficiency based solely on cost effectiveness to be responsive to the other elements that law requires be considered in establishing standards, and thus is not able to find that making the change requested by the comment would be appropriate.
75622.054	Nonresidential Envelope HPW	George Nesbitt	For metal buildings some of the wall U-Values are like .113, yet most of the other climates are dramatically lower, and that just sort of strikes me as like that's a really bad wall. And that those values should be lower. I mean, I would say as a principle, relying on building heat loss to get rid of cooling loads is most of the time a bad practice. We're much better off reducing the loads and probably getting rid of them otherwise.	No	The commenter does not propose a specific, lower U-value nor provide data or analysis upon which staff could establish a lower U-value requirement. For this reason, staff does not find that amending required U-factor values based on this comment would be appropriate.
75622.056	Nonresidential Envelope Multifamily	Nehemiah Stone	I'd like to take this opportunity to point out that the previous section on U—Factor for the envelope is a good -- this is not a criticism at all of what you've got here -- but it's a good place to point out the differences between low—rise res and high—rise res and what happens when you have essentially the exact same building, even on the same project, and one of the buildings is three stories and one is four stories, and you have very different requirements that set what the baseline is. And when we took a look at this for a building in Climate Zone 12, what we found was that you get an estimate of over 100 KBTU per square foot if it's a four—story building, and an estimate of under 60 KBTU per square foot if it's a three—story building. So one of those obviously has to be wrong, and it's very confusing to design teams that are putting together projects that have multiple buildings, multi-family unit buildings in the same project. So just another piece of evidence that we need to address the Multi—Family Code.	N/A	These comments neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Having said this, staff finds that high-rise residential buildings are generally held to requirements that are applicable to nonresidential buildings, with options to instead comply with requirements that apply to low-rise residential buildings. To the extent the comment can be understood as requesting that this approach be re-examined, staff encourage the commenter to submit a fully developed proposal for the 2019 rulemaking.
75490.001	Nonresidential Envelope U-factor	Birch Point Consulting	Commenter is concerned with the Mandatory Minimum Requirement in Section 120.7(b) for Spandrel Panels and Glass Curtain Walls having to meet a U-factor below 0.280. The issue is that visible glass prescriptively has to meet a 0.41 U-factor, which contradicts the Mandatory requirement.	Yes	Staff edited the requirement to read "Spandrel Panels and Opaque Curtain Wall" to make sure it is not talking about visible glass. "Spandrel" and "curtain wall" are defined in section 100.1: spandrel is already defined as opaque, and by specifying "opaque curtain wall" the Section now clearly does not apply to visible glass.

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75539.001	Nonresidential Envelope U-Factor	Taylor Engineering	Commenter requests that the CEC reduce the mandatory insulation requirement for metal framed studs to cavity insulation. In some applications, the cost of continuous exterior insulation is high, so it becomes less cost effective than other energy saving measures that could be implemented instead. Designers should be able to trade off exterior insulation with other measures using the performance approach.	Partially	Metal is a conductor, and continuous insulation provides a thermal block which prevents the transfer of heat energy through the metal that would otherwise occur. Staff therefore reduced but did not eliminate the continuous insulation requirement: staff raised the u-factor for metal framed buildings from 0.105, which is equivalent to R13 cavity insulation with R5 continuous insulation, to a u-factor of 0.151, which is equivalent to R13 cavity plus R2 continuous insulation (as noted by the commenter). Staff did not find that allowing a complete absence of a thermal break would be appropriate.
75557.001	Nonresidential Envelope U-Factor	Natural Recources Defense Council	NRDC strongly supports the high performance attics/ducts in conditioned space measure. NRDC also strongly supports increased wall efficiency requirements, but urges the CEC to adopt the highest levels found to be cost-effective in the CASE analysis.	No	Staff proposed the efficiency requirements present in the Draft Express Terms based on input from multiple stakeholders, and not based solely on the contents of the CASE reports. In particular, some of the values proposed by the CASE report were found to require challenging changes in common construction practices, which were considered by staff in their proposal of the draft standards.
75539.004	Nonresidential HVAC	Taylor Engineering	Commenter recommends revising the langauge of Section 120.2(f) so that it does not apply to unitary air conditioners.	N/A	These proposed changes to these sections were reverted based on a comment from CBPA, making these recommendations are no longer relavent. From comment 75501.001 - "Staff reverted the proposed changes to the language to accommodate this commenter. The intent of these changes were to clarify existing requirements, not to impose new requirements. The commenter has identified that a new requirement may be imposed by the proposed amendment, and staff therefore has reverted the change to this Section."
75237.001	Nonresidential HVAC	California Business Properties Association	CBPA believes Dampers for Air Supply and Exhaust Equipment is not cost effective.	Yes	The basis of the proposed changes was clarification of different occasions when the system fan shuts down. The intent was to describe, and not to expand, the requirement to situations where the fan would not normally be shut down. Based on the comments received on this issue, staff decided not to make the proposed changes given that fan shutdown is adequately described in the regulations and further descriptions and examples are more appropriate to provide in the Commission's published compliance manuals.
75237.002	Nonresidential HVAC	California Business Properties Association	Using the criteria of 10 brake horsepower as a metric may lead to misapplication of this requirement, and is burdensome to apply in practice.	Yes	This proposal was taken from ASHRAE 90.1 and shown to be cost effective using our metric for life cycle cost. However, we agree that using 10 brake horsepower as a trigger for airside systems could be burdensome to determine and is not consistent with the other triggers. We concluded that, since the trigger for water-side systems is mechanical cooling capacity, it is appropriate to set the same trigger for air-side systems. Mechancial cooling capacity is a better understood metric and a better descriptor of the cooling system size.
75554.001	Nonresidential HVAC	Goodman	Section 150.1(c)9 - CEC should ensure that residential and duct furnaces are exempted from this section's requirement.	No	The requirement in this Section ensures that moving HVAC equipment into conditioned spaces does not result in contaminating the breathable air within the conditioned space; staff do not find that furnaces are appropriate to exempt from this requirement. Furthermore, the requirements are not directly comparable to those in ANSI Z21.47: the proposed regulations apply to the builder of the building, whereas ANSI Z21.47 applies to the manufacturer and represents tests to be performed in a laboratory setting.

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75554.002	Nonresidential HVAC	Goodman	CEC should allow the use of airflow values associated with AHRI's certified ratings, including values below 350 CFM per ton.	No	Staff has not proposed a change to the 350 CFM standard in either the 45-day or 15-day language. The proposed change is not related to a proposed change, does not clarify any existing requirements, and is outside of the scope of the current rulemaking; the commenter is encouraged to submit a fully developed proposal for this change for the 2019 code cycle.
75554.002	Nonresidential HVAC	Goodman	Commenter does not see any benefit from having the charge of pre-charged single-package systems verified in the field.	Yes	Staff clarified an existing exception for factory-charged packaged systems to make it clear that it applied to pre-charged single-package systems and meant that these systems are not required to have refrigerant charge confirmed through field verification and diagnostic testing.
75622.039	Nonresidential HVAC	Michael Jouaneh	Does the strikeout of unitary single code from Section 120.2(b)4 make all thermostats used in commercial buildings have to comply with JA5 and therefore have to have WiFi or Zigbee?	No	The proposed change does not impose the JA5 communicating thermostat requirements to all space conditioning systems. Alternativley, space conditioning systems can be equipped with direct digital controls as specified in Section 120.2(b)4. Staff provided the following answer at the hearing where the question was asked: *MR. ALATORRE: No. If the systems are controlled with DDC, then they don't have to comply with the JA5 requirement.*
75918.003	Nonresidential HVAC	Taylor Engineering	Section 120.2(j) - We recommend deleting the added phrase "to the zone". The requirements in this section apply more generally than just zone-level controls. For example, the required controls for a new chilled water plant do not directly involve zone-level controls.	No	The context of this phrase is in reference to Table 120.2-A, which provides more detailed specifications of where controls are required to be zonal. Thus, it is accurate in describing this Table specifically, and appropriate to retain.
75529.001	Nonresidential HVAC Air Handlers	Air-Confitioning Heating & Refrigerating Institute (AHRI)	The requirement that combusion equipment in air handlers installed in conditioned spaces be direct vent is overly restrictive: air for combustion can be provided to gas-fired products from outside the conditioned space without the equipment being direct vent.	Yes	Staff deleted references to direct vent within this Section, and added a note referencing the combustion air requirements of Chapter 7 of the CMC. These changes clarify that although non-direct-vent products could potentially be installed in conditioned space, attention must be given to ensuring sufficient outside air to prevent backdrafting of the exhaust.
75875.001	Nonresidential HVAC ASHRAE 62.2 Alignment	Mike Moore	This comment focuses on significant residential energy savings that could be realized by permitting the use of one ventilation standard, ASHRAE 62.2, when specifying the mechanical ventilation requirements of all dwelling units, whether in low-rise or high-rise buildings; commenter states that "while it is likely too late in the 2016 process to make this change, I would like to request that CEC place this recommendation on its list of items to be considered during the next code revision."	No	Staff has not proposed a change to the residential ventilation requirements in either the 45-day or 15-day language. The commenters proposed change is is outside of the scope of the current rulemaking; the commenter is encouraged to submit a fully developed proposal for this change for the 2019 code cycle, cnosistent with their comment.
74625.001	Nonresidential HVAC Controls	Ella Sung	The definition of "Automatic demand shed control" is missing in section 100.1. We need to verify if the control needs a capability of receiving or responding to a signal automatically.	No	The specification requested by the commenter is stated in Section 120.2(h). Staff finds that the term "automatic demand shed control" is used as a section title for Section 120.2(h), not as a term of art, and use of this phrase in the Standards is consistent in referring to this Section. As such, adding a definition for the term to Section 100.1 would not be appropriate.
75539.002	Nonresidential HVAC Controls	Taylor Engineering	Section 110.2(c) - commenter recommends restoring the word unitary, as it's needed to prevent adding a requirement for setback where pneumatic VAV box thermostats are allowed.	Yes	Staff did not intend to expand the scope of the setback thermostat requirements. The commenter brings up an unforseen consequence for deleting the term unitary and we responded by restoring the term.
75539.003	Nonresidential HVAC Controls	Taylor Engineering	Commenter recommends revising Section 120.2(b) 4 to the following: "Thermostatic controls for all single zone air conditioners and heat pumps shall comply with the requirements of Reference Joint Appendix JA5." We recommend revising Exception 2 to Section 120.2(b) as follows "package terminal air conditioners, package terminal heat pumps"	Partially	Staff has taken these comment into consideration and has made some of the commenter's recommendation. Staff has restored "single zone" but kept specific references to 110.2(c) and 120.2(h) in order to benefit the clarity and consistency of the Standards. Staff also removed references to gas appliances in the exception and only kept Packaged Terminal Air Conditioners, Packaged Terminal Heat Pumps, Room Air Conditioners and Room Heat Pumps.

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75539.006	Nonresidential HVAC Controls	Taylor Engineering	The proposed revisions ask for "historical thermal lag profiles of each controlled zone". This requirement is vague. It is not clear if any of the major HVAC controls manufacturers have this ability. 90.1 is clearer and is available from all major HVAC controls manufacturers.	Yes	This proposal was taken from ASHRAE 90.1 and proved to be cost effective using our metric for life cycle cost. However, we do agree that using the specific language found in 90.1 would be more appropriate given the availability from all major HVAC control manufacturers. The language in question has been ammended to more closely reflect the language in 90.1.
75501.003	Nonresidential HVAC Dampers	ConSol	The CEC staff proposed regulations to add requirements for dampers serving air supply and exhaust equipment. Dampers must now automatically close during unoccupied periods as well as during setback heating and cooling periods. The damper can remain open during pre-occupancy purge cycles or if the zone is enabled by an override signal from an occupancy sensor, automatic time switch control or a manually operated 4-hour time. This may trigger the requirement of expensive building automation systems where none were required. It may also require one when one is not in existence. This requirement may conflict with public health code for adequate ventilation and may lead to sick building syndrome. This damper requirement may be very expensive especially for smaller buildings. This is may not be cost effective.	Yes	Staff reverted the proposed changes to the language to accommodate this and other commenters. The intent of these changes were to clarify existing requirements, not to impose new requirements. The commenter has identified that a new requirement may be imposed by the proposed amendment, and staff therefore has reverted the change to this Section.
75516.001	Nonresidential HVAC Dampers	GE	Commenter asks for clarification of the operation of the proposed changes to this Section.	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Nevertheless, Staff reverted the proposed changes to the language to accommodate another commenter. The intent of these proposed changes were to clarify existing requirements, not to impose new requirements. Additional guidance will be provided in the compliance manuals and other forthcoming education and outreach activities.
75622.034	Nonresidential HVAC Dampers	Matthew Hargrove	CBPA believes Dampers for Air Supply and Exhaust Equipment is not cost effective.	Yes	The basis of the proposed changes was clarification of different occasions when the system fan shuts down. The intent was to describe, and not to expand, the requirement to situations where the fan would not normally be shut down. Based on the comments received on this issue, staff decided not to make the proposed changes given that fan shutdown is adequately described in the regulations and further descriptions and examples are more appropriate to provide in the Commission's published compliance manuals.
75622.040	Nonresidential HVAC Dampers	Beth Brady	I have a question regarding updated Section 120.2.f, it's related to the requirement that all dampers remain closed when unoccupied, or during setback heating and cooling. In some thermostat controlled applications, we have both exhaust and outdoor air dampers controlled independently of one another, and the exhaust damper is controlled directly related to a static pressure set point in the space, so certain applications would need to continue to operate and remain open, even when the unit is unoccupied or not in fully occupied mode. I don't know whether that's something that would be considered as an exception under Exception 1.	No	Staff reverted the proposed changes to the language to accommodate other commenters. The intent of these proposed changes were to clarify existing requirements, not to impose new requirements. Additional guidance will be provided in the compliance manuals and other forthcoming education and outreach activities.
75622.044	Nonresidential HVAC Dampers	Darryl DeAngelis	The proposed changes to section 140.4(e)1 may actually result in more energy consumption and not energy savings.	Yes	Staff reverted the proposed changes to the language to accommodate other commenters. The intent of these proposed changes were to clarify existing requirements, not to impose new requirements. Additional guidance will be provided in the compliance manuals and other forthcoming education and outreach activities.

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75622.045	Nonresidential HVAC Dampers	Tony Moffett	The proposed changes to section 140.4(e)1 may actually result in more energy consumption and not energy savings.	Yes	Staff reverted the proposed changes to the language to accommodate another commenter. The intent of these proposed changes were to clarify existing requirements, not to impose new requirements. Additional guidance will be provided in the compliance manuals and other forthcoming education and outreach activities.
75622.046	Nonresidential HVAC Dampers	Tony Moffett	Mr. Moffett would like to have input on the changes to section 140.4(e)4C.	No	Staff did not receive additional comments from Mr. Moffett. Based on his oral comment, he neither objected to specific language in the proposed regulation nor make a recommendation to modify the proposed language.
75477.001	Nonresidential HVAC Duct Testing	ATCO Rubber Products, Inc.	ATCO strongly objects to JCEEP proposed amendments to the draft 2016 Building Energy Efficiency Standards (BEES) to limit the use of flexible duct in construction.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.
75478.001	Nonresidential HVAC Duct Testing	Pac-West Properties, LLC	We have been informed that comments by JCEEP into the 2016 Building Energy Efficiency Standards propose to severely limit the use of flexible ducts in new residential construction. We strongly object to the flex duct limiting proposal by JCEEP.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.
75479.001	Nonresidential HVAC Duct Testing	Thermaflex	Thermaflex notes tha the vast majority of residential and small commercial HVAC systems installed in California use flexible ducts. We strongly object to JCEEP proposed amendments to the draft 2016 BEES to limit the use of flexible duct in construction.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.
75480.001	Nonresidential HVAC Duct Testing	California Building Industry Association	CBIA strongly opposes the JCEEP proposal to limit felxible duct to five feet in residnetial and commercial contstruction.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.
75483.001	Nonresidential HVAC Duct Testing	North American Insulation Manufacturers Association	NAIMA strongly objects to JCEEP's proposal which disregards the Commission's quality installation guidelines and test requirements. Limiting flexible duct runs in residential and small commercial buildings to a maximum length of 5 feet is completely aritrary and unjustified.	N/A	None; this letter is a response to a comment submitted by another stakeholder, and is not a comment on the proposed 45- or 15-day language. The Energy Commission has not included JCEEP's proposal, to which the commenter objects, in its proposed amendments to the regulations.
75545.001	Nonresidential HVAC Duct Testing	Silver Creek	Commenter supports the comments from DGS and AIA (75238.001 and 75280.001) with regards to adding licensed architect for the purposes of design review	N/A	Staff appreciate the expressed support for the proposed changes to this Section.
75545.002	Nonresidential HVAC Duct Testing	Silver Creek	Commenter supports the comments from CBIA (TN # 75480) and ATCO Rubber Products (TN #75477) in objection to JCEEP proposed amendment to limit flexible duct. Existing guidelines and procedures provide sufficient regulation for duct systems	N/A	Staff appreciate the expressed support for the proposed changes to this Section.
75622.047	Nonresidential HVAC Duct Testing	George Nesbitt	Section NA1, which is the HERS, which the only measure that applies in Nonres is duct testing, so that whole section is regurgitated exactly the same as what's in the Residential Appendices. So we should delete it all. And we should either, well, we should take the HERS out of the Residential Appendices and just call it the HERS Appendices.	No	Staff does not find that the reorganization proposed by the commenter would improve the clarity or consistency of the regulations, and for this reason does not find that making the proposed change would be appropriate.

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75539.007	Nonresidential HVAC Economizer	Taylor Engineering	The original language required air economizers sized for the design supply airflow. The proposed revisions significantly change the meaning of this requirement. Instead of requiring that the economizer dampers be sized for the full airflow, any outside air damper, of any size, could meet the requirement, as long as it is capable of opening to 100% open (which every damper can do). So instead of stipulating a minimum economizer size, the revised language would allow an economizer of any size to meet this requirement. This is a big mistake.	Yes	Staff reverted the proposed changes to the language to accommodate this commenter. The intent of these changes were to clarify existing requirements, not to impose new requirements. The commenter has identified that a new requirement may be imposed by the proposed amendment, and staff therefore has reverted the change to this Section.
75622.035	Nonresidential HVAC FDD	Matthew Hargrove	CBPA believes Fault Detection and Diagnostic devices are not cost effective.	No	The commenter is questioning cost effectivness of a measure that was adopted as part of the 2013 Building Energy Efficiency Standards. During the 2013 rulemaking, the FDD device was found to be cost effective.
75622.037	Nonresidential HVAC FDD	Adrienne Thomle	For the FDD Certification, are products that are already certified going to be grandfathered or will the suppliers need to retest and recertify? If you don't need to retest and recertify, how do you report changes and/or enhancements?	N/A	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Staff provided the following answer at the hearing where the question was asked: *MR. ALATORRE: They would carry over, the actual fault detection requirements haven't changed. So, yeah, the ones that are already certified would carry over.* *MR. ALATORRE: If they're changes to the model that they submitted, then they would need to resubmit and tell us what those changes are, yeah.* *MR. STRAIT: It might be worth specifying that if they've already been tested, but they have now made some additional change, even if it's as simple as updating a model number, they can recertify and say, "Hey, we updated this model number, please add it in your list like this and remove the old listing," without having to retest. So they can always communicate with us, they can always certify to us, but they don't need to test every time they do so. (P57-58)*
75501.001	Nonresidential HVAC Mechanical System Shut-off	ConSol	The new requirement for door and window interlocks may have significant impact to smaller buildings with operable windows and doors. Commenter also does not believe that existing buildings have window switches. Commenter asks several questions about how the requirement will be implemented, applied, and enforced.	No	These comments and questions neither object to specific language in the proposed regulation nor make a recommendation to modify the proposed language. Nevertheless, Staff has considered the comment made by CBPA. The regulation does not differentiate by the size of the buildings affected by the statute. Nothing in the record shows how a smaller building would be affected differently by this requirement compared to a larger building, or provides a basis for a change to the regulations that would be an appropriate response to such a difference. The regulations specify that the interlock requirement applies to new buildings and does not apply to alterations in existing buildings. Staff anticipates responding to questions like these in the compliance manuals and other forthcoming education and outreach activities.
75237.004	Nonresidential Interlocks	California Business Properties Association	The new requirements for mechanical system shutoff may have significant impacts on smaller buildings with operable windows and doors. Commenter also does not believe that existing buildings have window switches. Commenter asks several questions about how the requirement will be implemented, applied, and enforced.	No	Staff has considered the comment made by CBPA, but cannot determine in what way a smaller building would be affected differently by this requirement compared to a larger building, nor determine that a change to the regulations would be an appropriate response to such a difference. The regulations specify that the interlock requirement does not apply to alterations, which seems to be the commenter's area of concern; staff's reasoning matches the commenter in that appropriate switches or sensors may not be present in an existing building and would be costly to add. For this reason, the regulations do not require that they be added to existing buildings. Commenter's additional questions do not request or require a change to the proposed language.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75542.001	Non-Residential Lighting Acceptance Testing	RNM Engineering	In NA7.6.3, the percent reduction calculation should use (total initial power - total DR power)/total initial power. Make correction to Mehod 1 Line h and Method 2 Line g of Acceptance Test from NRCA-LTI-04-A.	Partially	While this comment relates to compliance materials published by the Energy Commission and does not relate to the proposed regulatory changes within the rulemaking, Staff has made appropriate changes to the form, NRCA-LTI-04-A, and a summary of the changes follows: Method 1: Line f: (b- d) / d x 100% Line h: [(f1xg1) + (f2xg2) + (f3xg3) + …] / [g1 + g2 + g3 + …] where f = (b – d); g is the area of each controlled space. Method 2: Line e: (b- d) / d x 100% Line g: [(e1 x f1) + (e2 x f2) + (e3 x f3) + …] / [f1 + f2 + f3 + …]
75547.001	Non-Residential Lighting Acceptance Testing	RNM Engineering	Captialize the word "tests" because it is even more important than the other words in the title because this whole section about testing.	Yes	Staff edits the text of NA7.6.1 and the word "tests" has been captialized.
75547.002	Non-Residential Lighting Acceptance Testing	RNM Engineering	The sample quantity should be based on the quantity of spaces in the building. Recommend following guidelines used in the commissioning industry such as the IPMVP.	No	Staff finds existing language is sufficient in providing directions for testing and sampling, and that requiring sampling consistent with IPMVP would increase requirements in many cases without providing any clear benefit: there is no evidence that small buildings are overly tested or that large buildings are being under tested. Keeping the sample size at 5 will mean the Standards are consistent with itself.
75547.003	Non-Residential Lighting Acceptance Testing	RNM Engineering	Change "the remaining building spaces in the sample group also pass" to read as "the remaining building spaces in the sample group will be assumed to also pass."	No	Lighting that passes functional testing based on representative sampling has passed the test. Staff therefore finds that the existing phrasing is both more clear and more accurate in describing the regulatory effect of this Section.
75547.004	Non-Residential Lighting Acceptance Testing	RNM Engineering	After the first failure the acceptance test should stop. The failed component shall be repaired, replaced, or adjusted. During this time, the rest of the system could also be verified. The acceptance testing would resume on a different space and it passes, then the remaining building spaces in the sample group will also be assumed to also pass.	No	The entire paragraph of the existing language of NA7.6.1.2 includes directions on what to do during acceptance testing and covers scenarios mentioned in the comments. The existing language mentions that any test failed device to be repaired, replaces, or adjusted until it passes. When a device fails the test, the existing language has spelled out the end goal that the device will be corrected and retested until it passes. Staff finds existing language is sufficient in providing directions for testing and sampling.

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75547.005	Non-Residential Lighting Acceptance Testing	RNM Engineering	The partial daylight test does not provide any valuable information, is very difficult to perform, and increases the cost of the automatic daylighting acceptance test by 50% without a legal justification.	No	Staff does not find tha deleting the test would be appropriate; staff does not find that the daylight test is "overly difficult" to perform, noting that there are several effective strategies for simulating daylight for a sensor in order to observe the behavior of the lighting system. Staff finds that the test provides a necessary demonstration either that the daylighting controls behave correctly, or that they do not behave correctly and need correction. Staff also notes that the Nonresidential Appendix is adopted as regulatory language and that mention within Section 130.1(d) is not necessary for its validity as a requirement: NA 7.6.1 specifies how compliance is to be demonstrated so that a building can be found to meet the regulatory requirements in Section 130.1(d).
75622.057	Non-Residential Lighting Acceptance Testing	Michael Jouaneh.	Michael Jouaneh of Lutron agrees with a previous commenter's note that the tester cannot certify design.	N/A	Staff notes that the commenter has a correct understanding that the tester cannot certify design. There is no proposed change on this to the existing language.
75622.057	Non-Residential Lighting Acceptance Testing	Michael Jouaneh.	Commenter (Michael Jouaneh of Lutron) asks if there would be new forms for the additional lighting control acceptance tests.	No	There are no new forms for acceptance testing of manual ON/OFF controls. ON/OFF controls are common control strategies used in almost all buildings and the risk of an erroneous installation going unnoticed is extremely low. Staff does not find it appropriate to add acceptance test requirement for manual ON/OFF controls.
75622.058	Non-Residential Lighting Acceptance Testing	RNM Engineering	Commenter (Rick Miller) requests to add acceptance testing of the on-off switch and the dimming capability, and also to add acceptance testing of the controlled receptacles.	No	Expanding acceptance testing requirements to new control types requires a cost analysis showing that the benefits of this testing outweigh the increase in costs. Staff does not find, and the commenter does not provide, any cost information or analysis that would allow staff to consider this proposal; the commenter is encouraged to submit a complete proposal that includes this information for the 2019 code cycle.
75622.059	Non-Residential Lighting Acceptance Testing	RNM Engineering	Commenter (Rick Miller) notes that the very first item on Acceptance Testing form says Acceptance Tester to certify that the design complies with Part 6 and that requirement puts the tester in a awkard position because it is not the tester's job to design the job.	No	The comment relates to compliance forms and thus neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language. Nonetheless, staff will review the compliance form for consistency with the Final Express Terms and the 2013 Standards, as staff finds that acceptance testers are not intended to provide design review or input at the design stage, consistent with the commenter's comment.
75622.06	Non-Residential Lighting Acceptance Testing	RNM Engineering	Automatic Daylight Harvesting, the testing procedure requires three separate tests, but only two of them are mentioned in part 6, so therefore the third test mentioned in the Appendices raises the cost of Acceptance Testing for Daylight Harvesting by 50 percent, without a Part 6 justification. Similar applies to Demand Response, the Appendices mentions two separate tests, Part 6 mentions only one set point, so that second test raises the cost of demand response testing by 100 percent.	No	Staff finds that Section 130.4 makes reference to the Sections of NA 7 related to acceptance testing in their entirety, and thus does specify that all of the tests be performed. Staff finds that the test procedures are appropriate for ensuring the correct functioning of the daylighting and demand responsive controls; for example, demand responsive controls must provide the same reduction capability both when lighting is on at full power and when lighting is on at some lower value, and thus must be tested both at full output and at reduced output to show that any dimming already engaged in by the operator is not "counted against" the demand response the building is called upon to perform.
75622.062	Non-Residential Lighting Acceptance Testing	RNM Engineering	Commenter (Rick Miller) asks if it is the intent of the (this) Commission to require every certified lighting controls testing technician to purchase a $16,000 test kit (for OpenADR 2.0)?	No	Staff finds that a test set is not a mandatory tool for for demand responsive control acceptance testing. Use of a lighting control system dry contact as an interface to demand responsive control signals is allowed.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75622.092	Non-Residential Lighting Acceptance Testing	RNM Engineering	Commenter (Rick Miller) asks if acceptance testing is still required for lighting alterations.Commenter also ask if there has been any analysis whether Acceptance testing is cost—effective on renovation projects.	Partially	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language. Nonetheless, staff can provide the following answers: acceptance testing is required for lighting alteraion projects that include more than 20 luminaires, and the cost analysis performed for this requirement can be found in the documents relied upon identified in the rulemaking under which it was adopted.
75835.001	Non-Residential Lighting Acceptance Testing	Robert Shearer	A change in the specification to the required daylight level for Power reduction, (“Full Daylight Testing”), is incorrect. It is recommended that the change to Section 130.1 (d) 2. D. iv. be reversed.	Partially	Staff find that the errata correction noted for this Section corrects the error noted by the commenter, and makes the language consistent with the operation specified by the commenter. Staff therefore finds that reversing the change is unnecessary, noting that the change has no regulatory effect (the change replaces the phrase "illuminance received from the daylight" with the phrase "daylight illuminance" to enhance clarity).
76095.031	Non-Residential Lighting Acceptance Testing	RNM Engineering	Commenter (Rick Miller) suggests to increase the scope of the Lighting Controls Acceptance Tester and to include those related to power adjustment factors.	Yes	The Final Express Terms includes specifications for acceptance testing of controls used to claim Power Adjustment Factors.
74563.001	Non-Residential Lighting Alterations	Lighting Wizards	Please at least maintain the current 45 day language of the 2016 Title 24. It would even be better to have less or no restrictions for lighting retrofits.	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.
74563.002	Non-Residential Lighting Alterations	Lighting Wizards	Please use terms that lighting professionals and end-customers understand, such as retrofitting and replacing fixtures. These make a lot more sense than alterations or modifications.	Partially	Staff find that the term "retrofit" is used to refer to processes that modify an existing luminaire, but is also used generically to refer to any project that updates the lighting regardless of whether it includes replacing fixtures or modifying internal components of fixtures. Staff also find that the term "replacing fixtures" is not consistent in applying to projects that remove and reinstall the same fixtures rather than replacing them with new fixtures. For this reason, staff have retained the term "luminaire component modification" as a section title that refers to projects that modify the components of existing, installed luminaires, and "entire luminaire alteration" as a section title that refers to projects that replace entire luminaires. Staff has instead clarified the language that describes what actions these titles apply to.

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74626.001	Non-Residential Lighting Alterations	Lighting Wizards	Please let the market decide what is cost effective for lighting retrofits.	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.
74660.001	Non-Residential Lighting Alterations	Lighting Wizards	If the CEC will allow lamp for lamp replacement without triggering code, please also allow delamping without triggering code.	Partially	The revisions to the proposed language in Section 141.0(b)2I-L include revisions to the language specifying when these Sections are required to be met and what exceptions apply, based on this comment and comments from other stakeholders.
74678.001	Non-Residential Lighting Alterations	AMBAG	AMBAG Energy Watch fully supports the proposed changes that are outlined in the 45-Day Language for 2016 Title 24 Part 6 and thanks the California Energy Commission for these proposed changes.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings.
74683.001	Non-Residential Lighting Alterations	Lumenature	Lumenature wholeheartedly supports the proposed changes that are outlined in the 45-Day Language for Title 24, Part 6. We urge the CEC to make said modifications retroactive to January 1st, 2015	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.

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74684.001	Non-Residential Lighting Alterations	ABI Services	I Fully Support the Below Exemption and moving forward the date of Approving the Change as soon as is reasonably possible.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.
74685.001	Non-Residential Lighting Alterations	Royal Wholesale Elec	ROYAL WHOLESALE ELECTRIC wholeheartedly supports the proposed changes that are outlined in the 45-Day Language for 2016 Title 24 Part 6.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
74686.001	Non-Residential Lighting Alterations	American Lighting	I ASK AND BEG THAT YOU CONSIDER REVISING THE STANDARDS [relating to lighting alterations].	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
74690.001	Non-Residential Lighting Alterations	CREE	On behalf of Cree worldwide, we fully support the new T24 language which provides exemptions from Code compliance in [specified cases]. The current requirements have stifled growth in many industry sectors, these changes would clearly boost energy efficiency with retrofit projects and bring us closer to our 2020 state goals.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.

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74827.001	Non-Residential Lighting Alterations	Enlight	A simple addition to the law that exempts retrofits or energy efficiency replacements that reduce energy use from complying with the intricacies of Title 24 2013 would solve the problem of a law doing the opposite of its intended goal.	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.
74829.001	Non-Residential Lighting Alterations	American Lighting	The actual impact of the new Title 24 standards has been counter to what it may be been intended to achieve. This has only incentivized customers not to complete energy efficiency projects due to the much higher cost and payback periods. The confusion and misinformation in the marketplace has hurt our industry as a whole dramatically. The intentions may have been good but the manner in which this was rolled out had a devastating affect on this industry as well as any efforts in achieving the State of California energy reduction goals.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
74830.001	Non-Residential Lighting Alterations	Morehouse	Commenter is distressed by the performance of daylighting controls installed in a new office, and suggests that control requirements be removed in favor of requiring LED lighting.	No	The commenter's concern seems related to an incorrectly configured daylighting control; staff understand the comment to be requesting that the Energy Commission "repeal this stupid ineffective requirement for expensive automated lighting and plugs" and instead "should ... just require LED lighting". As shown in the rulemaking record, lighting controls are feasible and cost effective ways to save energy, and the Energy Commission has adopted acceptance testing requirement for lighting control installations to prevent the circumstance described in the commenter's letter. Correctly configured daylighting controls do not shut off lighting when insufficient natural light is available, which seems to be what is occurring here. While staff are sympathetic to the commenter's circumstance, staff do not find it to be a sufficient justification for amending the regulations.
74831.001	Non-Residential Lighting Alterations	American Lighting	Commenter requests that we "take the time to re-evaluate the California Building Energy Standards of Title 24 as they relate to existing business property retrofit lighting."	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
74847.001	Non-Residential Lighting Alterations	Regency Lighting	Commenter requests that we review and adjust the lighting alteration measures in Section 141.0(b)2.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.

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74848.001	Non-Residential Lighting Alterations	Stanford University	Lighting Alterations. Support of the proposed regulations granting exemptions for one-for-one luminaire or luminaire component replacement.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings.
74849.001	Non-Residential Lighting Alterations	Alamo Lighting	Support the proposed regulations which provide exemptions for replacement of luminaires or luminaire components where there is lower power consumption. Oppose to the proposed languages in Section K, wiring alteraions. Recommend to implement it ASAP.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to concerns about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.
74850.001	Non-Residential Lighting Alterations	citizen	Title 24 is killing my lighting retrofit job. It is no longer economically viable to reduce lighting energy use and the associated greenhouse gasses by as much as 70% in California.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75231.001	Non-Residential Lighting Alterations	Controlled Energy	We support the proposed changes to Part 6, Section 141.0 and we urge the CEC to make them effective on July 1, 2015 or sooner.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.
75234.001	Non-Residential Lighting Alterations	Quick Light Recycling	I am writing to state our support for the proposed changes to Part 6, Section 141.0, that will simplify energy efficiency retrofits to existing lighting systems. We also ask that these changes happen sooner rather than later, because the financial pain to suppliers like us and others in this industry have been going on for more than a year. The change in regulations needs to be made now, not next year.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.

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75239.001	Non-Residential Lighting Alterations	New Light Energy De	New Light Energy Design wholeheartedly supports the proposed changes that are outlined in the 45-Day Lanugage for 2016 Title 24 Part 6. The draft language would correct critical oversights in the current Code and will resuscitate the lighting retrofit market that has all but stopped in response to the cost and complexity of implementing the current regulations.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75241.001	Non-Residential Lighting Alterations	Dana Electric	Commener supports the proposed changes to Section 141.0 and strongly urges the CEC to make those changes effective July 1, 2015 or sooner.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.
75242.001	Non-Residential Lighting Alterations	American Lighting	I hope you take the time to re-evaluate the California Building Energy Standards of Title 24 as they relate to existing business property retrofit lighting.	Yes	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75243.001	Non-Residential Lighting Alterations	American Lighting	I hope that you carefully consider the impact of continuing as-is, and what will happen to the lighting industry if the rules are not changed.	Yes	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75279.001	Non-Residential Lighting Alterations	Ecology Action	Ecology Action is gratified that the proposed 2016 45 Day Language is addressing the most problematic aspects of the 2013 Code. [Commenter also provides comments on an interim draft of the language between publication of the 45-Day and 15-Day Draft Express Terms.]	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75281.001	Non-Residential Lighting Alterations	ABM Electrical and Li	ABM Electrical and Lighting Solutions, Inc. wholeheartedly supports the proposed changes that are outlined in the 45-Day Language for 2016 Title 24 Part 6.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75381.002	Non-Residential Lighting Alterations	Oracle	Commenter "support[s] the proposed changes by the CEC to the Title 24 Energy Efficiency Code to remove disincentives to the energy efficiency retrofit industry for carrying out energy retrofits", and specifically highlights the proposed "one for one replacement" language proposed for Section 141.0(b)2I and J.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.
75395.001	Non-Residential Lighting Alterations	TruTechEnergy	Please also consider eliminating the requirements of Demand Response, as it creates a drastic increase in cost, with a minimal benefit to Californians compared to larger scale measures like battery banks to deal with demand events.	No	The demand response requirement is an existing requirement of the current Standards that has been shown to cost effectively enable energy savings; the commenter does not quantify the asserted increase in cost in a way that would allow it to be compared to the CASE report on which this measure was previously adopted. Staff therefore do not find that completely eliminating demand response requirements would be appropriate.
75398.001	Non-Residential Lighting Alterations	My Lighting Company	Commenter supports an interim draft of the proposed changes to Section 141.0(b)2I-L shown at our public workshop on March 3, 2015.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75399.001	Non-Residential Lighting Alterations	American Lighting	Add Exceptions for Alterations and Modifications such that Code is not triggered as long as the new or modified fixtures have at least 20 percent lower power consumption compared to the original fixtures, add an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires, and make the changes effective now.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75400.001	Non-Residential Lighting Alterations	American Lighting	The rules for exterior lighting are viewed as unreasonable and not well thought out as well. Most exterior lighting applications are there for security reasons. Customers want the areas fully illuminated, even if there is no human presence. They simply want their lots to be secure.	No	For indoor lighting, the proposed requirements relating to automatic shutoff controls specify that the controls must be capable of automatic shutoff behavior; they do not compel any particular behavior on the part of the occupant. For outdoor lighting, the controls similarly specify capability and are further required to detect occupants and turn the lighting on to full power when the space is occupied. This allows the building to be responsive both to occupants that do not need full illumination and those that do. For this reason, staff does not find that changing the requirement would be appropriate.
75405.001	Non-Residential Lighting Alterations	Enlight	Commenter supports the proposed exceptions to lighting alteration requirements presented in interim language, and supports adding a similar exception for exterior lighting alterations.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.
75406.001	Non-Residential Lighting Alterations	AERC Recycling Solut	Support the proposed changes to Section 141.0.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75407.001	Non-Residential Lighting Alterations	Ecology Action	Ecology Action fully supports Version 9 of the proposed language for Indoor Lighting Alterations in its entirety. In particular, we feel the [proposed] Exceptions are critically important and should not be subject to further modification.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75407.002	Non-Residential Lighting Alterations	Ecology Action	Ecology Action's proposal is to add an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff proposed an exception to determining lighting power allowances when a 40 percent reduction in power is achieved, consistent with the commenter's recommendation. A complete exemption from triggering code in its entirety was determined to be inappropriate: staff find that BUG requirements and control requirements are still appropriate and provide cost effective benefits for projects meeting this criteria.
75407.003	Non-Residential Lighting Alterations	Ecology Action	Ecology Action is also proposing an Exception so that existing controls are allowed when 5 or fewer luminaires are replaced, and so that Time Clocks will not be required when 12 or fewer luminaires are replaced. Photocells and Occupancy-Off or Partial-Off controls would still be required. We believe this would help lessen the burden on small exterior jobs.	Partially	Staff proposed a 5 luminaire threshold in the 15-Day Language consistent with the commenter's recommendation; a separate 12-luminaire threshold specifically for time clocks was determined to be an unneeded complication provided that the 5-luminaire threshold was added.
75408.001	Non-Residential Lighting Alterations	EnerPath	Commenter supports the proposed amendments to Section 141.0(b)2, and requests that they be made effective immediately.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75411.001	Non-Residential Lighting Alterations	Alamo Lighting	The commenter "fully support[s] Version 9 of the proposed language for Indoor Lighting Alterations in its entirety. In particular, [commenter] feel[s] the following Exceptions are critically important and should not be subject to further modification", referring to Exception 2 for Sections 141.0(b)2I and J.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75412.001	Non-Residential Lighting Alterations	Quick Light Recycling	I fully support Version 9 of the proposed language for Indoor Lighting Alterations in its entirety. In addition, I believe the proposed Wiring Alterations language in Section 141.0(b)2K properly applies daylighting controls to large projects only, while not creating barriers for small and medium projects where the associated costs are unacceptable to the retrofit market. It is also critical to add an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75414.001	Non-Residential Lighting Alterations	ABM	Commenter supports Version 9 of the proposed language for Indoor Lighting Alterations, supports the proposed Wiring Alterations language in Section 141.0(b)2K, requests an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75415.001	Non-Residential Lighting Alterations	Amersco	Commenter supports Version 9 of the proposed language for Indoor Lighting Alterations, supports the proposed Wiring Alterations language in Section 141.0(b)2K, requests an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75416.001	Non-Residential Lighting Alterations	Lighting Wizards	Commenter supports Version 9 of the proposed language for Indoor Lighting Alterations, supports the proposed Wiring Alterations language in Section 141.0(b)2K, requests an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.

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75417.001	Non-Residential Lighting Alterations	Savemorenergy.com	Commenter supports Version 9 of the proposed language for Indoor Lighting Alterations, supports the proposed Wiring Alterations language in Section 141.0(b)2K, requests an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75419.001	Non-Residential Lighting Alterations	Amersco	Commenter supports Version 9 of the proposed language for Indoor Lighting Alterations, supports the proposed Wiring Alterations language in Section 141.0(b)2K, requests an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75424.001	Non-Residential Lighting Alterations	Lutron	Concerned that the current language takes the standards back to pre-2005 levels. Commenter supports the proposed exception but would like the percent savings increased from 20% to 25%, and would like for luminaire modifications to incorporate more controls.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path requiring a 35% or 50% reduction, which is consistent with the commenter's request for a higher reduction threshold. The revised language also incorporates additional controls into this compliance pathway, equivalent to the requirements in Table 141.0-E at the 85% of LPD specification with the exception of not requiring bi-level lighting. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75425.001	Non-Residential Lighting Alterations	LADWP	The LADWP supports the Energy Commission's efforts to make the 2016 Code more retrofit friendly. The LADWP supports the [version 9] changes presented on March 3, 2015, with a suggested grammatical change. LADWP would support and encourage that the final language be adopted by emergency adoption to replace the requirements of the 2013 code.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code. Staff des not find that conducting an emergency rulemaking immediately following the current rulemaking would be appropriate.
75425.002	Non-Residential Lighting Alterations	LADWP	The commenter suggest the following changes and clarifications. 1.Split Section 141.0(b)2J sentence into two in order to improve clarity. 2. Add "Entire Luminaire Alterations" to Table 141.0-E title.	Partially	The sentence referred to in Section 141.0(b)2J is no longer present in the 15-Day Language, as the Section has been rewritten. Staff have updated the title of Table 141.0-E consistent with the commenter's request.
75429.01	Non-Residential Lighting Alterations	NEMA	NEMA disagrees with the Commission's decision to remove the 2005 and 2008 Title 24 requirements which required Lighting Controls systems for retrofits. While we sympathize with the confusion expressed by lighting retrofit companies on the March 2nd webinar and in written comments, we agree with Commission staff's verbal response to these complaints during webinar that these difficulties can be mitigated with compliance training and other informative measures. Modifying Table 141.0-E to be more inclusive and allow strategies beyond the use of dimming ballasts/drivers, removing the word "mandatory", and changing "luminaire" to "enclosed space" are appreciated. However, we do not believe that increasing the threshold for triggering compliance with Section 141.0 from 10% to 20% will have a demonstrable effect. With these comments in mind, NEMA proposes that CEC redact the proposed adjustment to the Exception 2 to Section 141.0(b)2I and the proposed adjustment to Exception 2 to Section 141.0(b)2J both as presented at the March 3rd Hearing at CEC14. We also propose that CEC redact the proposed change15 to the heading of the left hand column of Table 141.0E which strikes the word "Mandatory" and changes "20%" to "10%". We feel the longstanding existing requirements are adequate and confusion in the field can be mitigated with training and outreach as noted in the March 3rd hearing.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised language does not alter the percent threshold, which remains at 10%. The word "mandatory" no longer occurs in Table 141.0-E, though staff notes that this is a grammatical change for consistency with Section 141.0(b)2 and does not change when or how the Table applies. Staff does not find that all of the concerns noted by commenters are able to be addressed through education, and that the changes made to address their concerns are appropriate. Consequently, stafffinds that the final language provides appropriate cost relief without diminishing expected energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75432.001	Non-Residential Lighting Alterations	SCPPA	We greatly appreciate the Energy Commission staff's efforts to "simplify and streamline" the nonresidential lighting control requirements. We strongly support the proposed Part 6 Section 141(b)2 revisions regarding non-residential lighting exceptions. We further recommend that the effective date of this change not be delayed until 2017. Making the change effective the same date as the 2016 Title 24 Building Energy Efficiency Standards revisions are adopted – or, better still, retroactive to January 1, 2015 – would encourage development of a significant number of important energy efficiency projects across the State that may otherwise be stymied with the existing retrofit requirements left in place.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75434.001	Non-Residential Lighting Alterations	CMUA	Commenter supports CEC's proposed changes to the 2016 Title 24 Codes & Standards, nonresidential lighting alterations focus on Part 6, Section 141.0(b)2I that simplifies and streamlines the requirements for lighting alterations, and recommends that the CEC also consider a "reach-back" provision that modifies the 2013 Title 24 Code & Standards language to include the proposed language edits you have outlined for the 2016 Title 24 amendments.	No	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75438.001	Non-Residential Lighting Alterations	Sierra Business Coun	Commenter supports Version 9 of Section 141.0, and specifically calls out three sections: "Exception 2 to Section 141.0(b)2I", "Exception 2 to Section 141.0(b)2J", and "Section 141.0(b)K" as being important to their business. Commenter recommends against any further changes to these two Exceptions and one Section, and further recommends that the proposed changes take effect immediately. The commenter recommends adding an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75439.001	Non-Residential Lighting Alterations	Stanford University	Commenter supports the lighting alteration language granting exemptions where the new luminaries or components have at least 20 percent lower power consumption than the existing condition. Commenter also supports early implementation of adopted changes.		Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75441.001	Non-Residential Lighting Alterations	Richard Heath and As	Commenter supports Version 9 of the Indoor Lighting Alterations 2016 45-day language dated March 10, 2015, and specifically calls out three sections: "Exception 2 to Section 141.0(b)2I", "Exception 2 to Section 141.0(b)2J", and "Section 141.0(b)K" as being important to their business. Commenter recommends against any further changes to these two Exceptions and one Section, and further recommends that the proposed changes take effect as soon as possible. The commenter recommends adding an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires, and supports an "…exemption that would allow existing controls when 5 or fewer luminaires are replaced, so that Time Clocks would not be required when 12 or fewer luminaires are to be replaced."	No	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75442.001	Non-Residential Lighting Alterations	Controlled Energy	Commenter supports Version 9 of the Indoor Lighting Alterations 2016 45-day language dated March 10, 2015, and specifically calls out three sections: "Exception 2 to Section 141.0(b)2I", "Exception 2 to Section 141.0(b)2J", and "Section 141.0(b)K" as being important to their business. Commenter recommends against any further changes to these two Exceptions and one Section, and further recommends that the proposed changes take effect immediately. The commenter recommends adding an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	No	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75444.01	Non-Residential Lighting Alterations	Richard Heath and As	The commenter "fully support[s] Version 9 of the proposed language for Indoor Lighting Alterations in its entirety. In particular, [commenter] feel[s] the following Exceptions are critically important and should not be subject to further modification", referring to Exception 2 for Sections 141.0(b)2I and J. The commenter further believes Section 141.0(b)2K should remain as proposed and an exception for exterior fixture replacements should be added. Lastly, the commenter is in favor of adding an excepton that allow existing controls to remain when 5 or fewer luminaries are replaced.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.

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75444.01	Non-Residential Lighting Alterations	Richard Heath and As	The commenter is in favor of adding an excepton that allow existing controls to remain when 5 or fewer luminaries are replaced.	Partially	Staff added an exemption for alterations that impact two or fewer luminaries per enclosed space (see Exemption 2 for both Section 141.0(b)2J and (b)2K in the proposed 15-day language). Staff determined that an exemption for enclosed spaces with more than two luminaires could lead to excessively large projects being exempted from the regulatory requirements.
75472.001	Non-Residential Lighting Alterations	Opterra	Commenter supports Version 9 of the Indoor Lighting Alterations 2016 45-day language dated March 10, 2015, and specifically calls out three sections: “Exception 2 to Section 141.0(b)2I”, “Exception 2 to Section 141.0(b)2J”, and “Section 141.0(b)K” as being important to their business. Commenter recommends against any further changes to these two Exceptions and one Section, and further recommends that the proposed changes take effect immediately. The commenter recommends adding an Exception for exterior fixture replacements such that Code is not triggered so long as replacement luminaires have at least 40 percent lower power consumption compared to the original luminaires.	No	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75493.001	Non-Residential Lighting Alterations	PG&E	PG&E proposes alternate measures for Sections 141.0(b)2I, J, and K to address a concern of lost savings related to daylighting controls.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations retain the daylighting control requirements for luminaire alterations and modifications, and specify daylighting controls for wiring alterations where a minimum number of luminaires is reached. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.
75514.001	Non-Residential Lighting Alterations	NRDC	NRDC writes in support of the revisions proposed by PG&E in their March 19, 2015 Codes and Standards Enhancement Initiative (CASE) Report. These proposed changes strike the right balance between allowing for the continuation of retrofit programs and maintaining code stringency, maximizing overall energy savings. The CEC should adopt a two-part approach that provides near-term relief, while continuing to capture the potential energy savings from dimmable LEDs in the future code. We urge the CEC to require a savings of 30 percent or greater compared to existing luminaires in the 2017 code, which would better reflect the potential savings from LEDs. We support the language submitted by PG&E that states that the exception should be limited to “projects consisting of only luminaire replacements.”	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms is more specific than the language in the CASE report in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of affected luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code, even through a "two-part approach" as suggested by the commenter.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75514.001	Non-Residential Lighting Alterations	NRDC	Commenter agreed that the exemption threshold of 20 percent energy savings compared to the existing luminaires is appropriate from the 2013 code. However we urge the CEC to require a savings of 30 percent or greater. Also commenter remains concerned that the savings compared to previously installed luminaires is not audible and suggested, as a minimum, the CEC should require projects using the exemption to maintain some record of the previously installed lighting.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path requiring a 35% or 50% reduction, which is consistent with the commenter's request for a higher reduction threshold. The revised language also incorporates additional controls into this compliance pathway, equivalent to the requirements in Table 141.0-E at the 85% of LPD specification with the exception of not requiring bi-level lighting. Staff finds that the final language provides appropriate cost relief without diminishing energy savings.
75518.001	Non-Residential Lighting Alterations	New Light Energy De	The commenter "fully support[s] Version 9 of the proposed language for Indoor Lighting Alterations in its entirety. In particular, [commenter] feel[s] the following Exceptions are critically important and should not be subject to further modification", referring to Exception 2 for Sections 141.0(b)2I and J. The commenter believes Section 141.0(b)2K should remain as proposed and an exception for exterior fixture replacements should be added. Also the commenter urges implementation of these changes right away.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75552.012	Non-Residential Lighting Alterations	Engineering Enterpris	The commenter stated that the Section (141.0(b)2 for lighting alterations) is poorly written and the commenter was unclear what the 10% requirement is now.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Staff worked to further clarify and refine the language of these Sections.
75556.001	Non-Residential Lighting Alterations	SCE	This document contains comments on the nonresidential lighting portions of the 2013 version of Title 24, Section 141 - Additions, Alterations, and Repairs to Existing Buildings and proposed language for inclusion in the 2016 version of the code. SCE's submits this proposal for interpreting the 2013 code and modifications for the 2016 code. SCE uses the following three categories to define the scope of lighting retrofit and renovation work in this proposal: 1. Luminaire Modification 2. Luminaire Replacement 3. Full Renovation; including electrical modifications, luminaire reconfiguration, etc. SCE wishes to maintain the stringency of Title 24 Part 6 Section 141 under circumstances where it can be applied in a manner commensurate with the scope and scale of the work that is being performed and the potential energy savings opportunities.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path requiring a 35% or 50% reduction, which is consistent with the commenter's request for a higher reduction threshold. The revised language also incorporates additional controls into this compliance pathway, equivalent to the requirements in Table 141.0-E at the 85% of LPD specification with the exception of not requiring bi-level lighting. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.
75558.001	Non-Residential Lighting Alterations	Ecology Action	On March 27, 2015 the Commission postponed the April 8, 2015 Hearing to consider adoption of revisions to Title 24 to a later date to be announced. Accordingly, we believe the Commission must also extend the official comment period, which is currently slated to end today, by a commensurate period.	N/A	Staff does not find that moving the date of an adoption hearing necessitates, as a matter of law, formally extending the public comment period beyond the required 45 or 15 days. Staff notes that comments submitted pursuant to such hearings are treated as public comments submitted during the public comment period regardless of the date of the hearing.

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75558.002	Non-Residential Lighting Alterations	Ecology Action	The commenter submitted proposed changes to the lighting alteration language.	No	Staff considered specifying "controls" rather than "luminaires" in the Exception for acceptance testing, and found that controls in interconnected systems may not be able to be discretely counted. For example, a centralized Energy Management Control System may control all of the lighting in a building and be described as "one" central control. Staff therefore finds that specifying luminaires is more appropriate than specifying controls. The additional suggested language relates to portions of a working draft of the Standards (version 13) that were completely rewritten in the15-Day Language.
75566.001	Non-Residential Lighting Alterations	San Francisco Depart	The commenter believed certain exceptions within the proposed lighting alterations are critically important.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.
75567.002	Non-Residential Lighting Alterations	Acuity	The proposed revisions for areas with lighting modifications in sections 141.0(b)2I, J and K do not appear to keep California on a track to achieve the energy reduction goals by relaxing requirements for renovations. We recommend that the CEC reevaluate the negative implications of the relaxed requirements relative to the state energy goals. If it is determined that there is a need to exempt certain installations, they should be small areas and achieve significantly lower power density relative to the code power allowance if controls will be exempted.	Yes	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path equivalent to the requirements in Table 141.0-E at the 85% of LPD specification, and provide an exception to acceptance testing limited to projects altering 20 or fewer luminaires. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.
75567.002	Non-Residential Lighting Alterations	Acuity	We recommend that the CEC consider relaxing the quality attributes mandated for integrated LED luminaires to continue to promote the market adoption of these high efficiency and cost effective lighting solutions. We also recommend that the quality attributes should be relaxed for OLED luminaires to promote continued R&D and cost reductions.	No	Staff does not find that making special allowances for differing technologies would be appropriate, as it is not consistent with the technology-neutral, performance-based approach taken by the Standards generally.
75574.001	Non-Residential Lighting Alterations	Alamo Lighting	It is frustrating and sad to learn that the energy commission is considering imposing further project-killing requirements beyond those proposed recently in version 9 for title 24. It is critical that you stick to that language regarding interior new fixtures and alterations, and for exterior fixtures, make exceptions for replacements reducing energy by 40%, including, critically, removing mandated sensor requirements, with third party verification. All of this was already a compromise on our part.	No	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and for including outdoor lighting in this revision. The language in the final express terms uses the same percent-reduction approach shown in the Version 9 working draft language but is more specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.

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75582.001	Non-Residential Lighting Alterations	Athens Enterprises	Commenter had a six story parking structure with a pharmacy on the ground floor and an office for the sixth floor. Commenter stated that the following controls are not only burdensome an oppressive, but they are not technically feasible. Manual Area Controls; Multi-level Controls; Automatic shut-off Controls; Demand Response Controls; Disaggregation of Electrical Loads.	Partially	The commenter appears to be making a broad comment about the 2013 Standards. The full set of requirements specified by the commenter apply only to newly contructed buidings: lighting control measures are shown to be cost effective in the CASE report studies identified as Documents Relied Upon when the measures were adopted. The commenter does not specify in what ways or for what reasons the requirements are not feasible; staff is not able to find any evidence that this is the case. Alternatively, if this comment is intended as a comment on the proposd changes to the Lighting Alteration provisions of Section 141.0(b)2, staff does not find that the Final Express Terms impose any new requirements for nonresidential lighting controls (compared to the existing requirements in the 2013 Standards). Staff notes that alteration projects in existing buildings have a compliance pathway under the 2013 Standards that does not require installation of daylighting or demand response controls, and that requires only bi-level lighting in place of multi-level lighting requirements. The Final Express Terms include an additional path that is equivalent to this path, and that does not require installation of bi-level lighting. Alteration projects also do not require disaggregation of electrical loads unless the entire electrical distribution system is being replaced. To the extent the commenter misunderstands the requirements that apply to alterations, staff have made extensive edits to the regulations relating to lighting controls to make the regulatory language more clear and consistent. Staff otherwise are not able to find that removing control requirements in full (both for newly constructed buildings and for alterations) would be appropriate.
75595.001	Non-Residential Lighting Alterations	Lighting Wizards	Although Proposed 2016 Code: Version 16.x (interior) and 6.x (exterior) is a significant improvement compared to the existing and original 2016 codes, it is not enough, especially in this age of diminishing returns, to save the most energy in lighting retrofits. The only part that is really okay in Version 16.x is Luminaire Component Modifications (Section 141.0(b)2J). Many stakeholders provided input and could survive with the compromise of the previous draft language, which basically included what is in Version 16.x (Section 141.0(b)2J). In all other ways the previous draft language is better. Permits, even simple ones, controls, CLCATTs and/or other requirements increase costs significantly without necessarily saving extra energy. Allow lighting professionals and end-customers to make decisions for each specific project.	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75596.001	Non-Residential Lighting Alterations	Lighting Wizards	Commenter suggests that "Except for existing CFLs, all other interior and exterior lighting retrofits or replacements, which are at least 40% less wattage than existing, would not trigger Title, so no permits, LPD, CLCATT, dimming, bilevel lighting or controls would be required. For existing interior and exterior CFLs, if the lighting retrofit or replacement reduces wattage by at least 20%, would not trigger T24, etc."	Partially	The language in the final express terms is specific in avoiding three sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed, consistent with this and other commenters' calls for relief from project costs. Specific thresholds such as percent reduction requirements and numbers of luminaires were adjusted to ensure equivalent energy savings are achieved by the final language. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings. Staff does not find that completely removing requirements for lighting alteration projects meeting specified thresholds would be appropriate or responsive to both comments seeking cost relief and those concerned about losing required energy savings.
75602.001	Non-Residential Lighting Alterations	Lighting Wizards	Title 24 is an obstacle for lighting retrofits, because it increase time and costs without saving extra energy.	Partially	Staff revised the requirements for lighting alterations to help reduce costs and streamline compliance. Staff finds that Title 24 saves energy, and that the requirements that apply to lighting retrofits are cost effective.
75621.001	Non-Residential Lighting Alterations	Lighting Wizards	Commeter stated that in general a 15-year payback (a 15-year period of analysis) does not make any practical sense (for lighting alterations measures) because controls may not last that long.	No	The 15-year period life cycle cost-effectiveness analysis is a state statutory requirement for energy efficiecny measures, and is based on the lifespan of the building, not on preferences of specific tenants or consumers for short payback times. Calculations of life cycle cost include replacement costs for equipment with estimated lifespans of less than 15 years.
75622.064	Non-Residential Lighting Alterations	CBPA	Commenter (Matthew Hargrove) notes that they are still trying to catch up with the 2013 Standards. Some of the cost-effectiveness assumptions that went into those Standards they are not sure are bearing out right now	No	Whie the current rulemaking does not revisit the cost effectiveness analysis performed for the prior rulemaking, staff amended the requirements for lighting alterations to address three identified sources of increased project costs: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed.
75622.065	Non-Residential Lighting Alterations	RNM Engineering	Commenter (Rick Miller) notes that he had a project and the specified dimming ballasts came in at a cost ten times than what he had originally estimated. He thinks what is happening is that the middle man between the manufacturer and the owner seeing that it's now legally required, and the owner doesn't have a choice, they have to put it in, therefore the marketplace has the opportunity to put whatever price on it they want to.	No	Staff finds that dimming ballasts are available at a variety of price points; while staff do find evidence of the effect noted by the commenter, staff also find that other sellers are offering these products at ordinary prices and therefore find that buyers are able to select sellers that are not attempting to artificially inflate product prices. For this reason, staff do not find that a change to the regulations is necessary at this time.
75622.066	Non-Residential Lighting Alterations	ConSol	Commenter offers to help in providing construction cost of a lighting project.	N/A	Staff appreciates the commenter's offer to provide assistance in gathering construction cost data for future development of energy efficiency measures and requirements.
75622.067	Non-Residential Lighting Alterations	CBPA	The commenter notes that any proposed changes to the lighting alteration requirements should be cost effective and should provide energy savings.	N/A	The Energy Commission is required under statute to find that proposed requirements are cost effective, in order to adopt them into regulation. Staff finds that extensive analysis was performed relating to cost effectiveness for the measures included in this rulemaking, and that no changes are needed to address this comment; staff are, nonetheless, receptive to any cost information that stakeholders or commenters are able to provide, including information showing that measures previously understood to be cost effective may no longer be so due to changing market conditions or other factors.

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75622.068	Non-Residential Lighting Alterations	CBPA	We have a concern there that disaggregation of loads is rare in many types of commercial settings, and this might be a burdensome mandatory code and we also think that putting in monitoring equipment doesn't in any way impact energy efficiency, you know, it gives us information that potentially could impact energy efficiency, so that might not be a cost—effective measure. And we also would make the argument that this type of disaggregation of loads should be a function of the utilities and not the building owner in many cases. So thank you very much.	No	Staff notes that the requirements do not specify or require installation of monitoring equipment: the requirements are limited to ensuring that the building's wiring is designed in such a way that loads are able to be separately monitored (as opposed to wiring designs that preclude monitoring specific loads). Staff therefore finds that no change to the code is needed, as the code does not impose the cost of installing monitoring equipment that the commenter is concerned about.
75622.079	Non-Residential Lighting Alterations	Ecology Action	The exceptions to (i) and (j) need to remain closer to how they were in the 45—Day Language. For exception 2, you had taken out the one—for—one in front of the word "replacement of luminaires," I think that really is important that that needs to be stricken because it's killing many of the few retrofits which often makes a lot of sense, and by keeping that one—for—one replacement in there, you're taking a lot of situations where there's 10 luminaires because it was spec'd 20 years ago and they don't need to be that many, you want to cut that back to eight, but it really just needs to be replacement of luminaires.	Yes	The final language allows for many-to-few retrofits, consistent with the commenter's comment.
75622.08	Non-Residential Lighting Alterations	Ecology Action	The other thing we strongly oppose the most recent proposed changes to the wiring alterations section. Invoking 130.1(b) and (d), dimming and automatic daylighting, for really simple wiring alterations is illogical and highly counterproductive. Retrofitters will simply avoid potential jobs with a need for these type of wiring alterations, rather than turn them into unsellable proposals due to the unsupportable and unwanted cost of adding multi-level and daylighting to the project.	Yes	The final language matches the specifications in the 2013 Standards and requires only bi-level controls, not dimming controls or automatic daylighting controls, for projects following the percent reduction path, consistent with the commenter's comment.
75622.081	Non-Residential Lighting Alterations	Ecology Action	The other thing is the addition of "at least 20 percent lower". Previously it was the same or lower, we could live without the "same," but really we don't think putting an arbitrary percentage in there is necessary because retrofitters are going to come in substantially below the existing wattage. There is also a potential unintended effect of discouraging certain LED upgrades based on the available product wattage differential. So it could be that you're in a CFL to LED or something and it doesn't quite have that 20 percent margin because of the kind of product that's available. We think that could come and bite you. We just -- it's arbitrary, we don't think it's necessary to achieve the desired effect.	No	Staff finds that specifying a percentage threshold for projects following the percent reduction pathway is necessary to ensure that the new pathway is equivalent to the existing pathway of installing 85% or less of the space's Lighting Power Allowance.
75622.082	Non-Residential Lighting Alterations	Jim Benya	Getting square footage for an existing building is very difficult. And so we ought to continue to consider a unitary reduction in wattage.	Yes	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements, and notes that the Final Express Terms includes a compliance pathway consistent with the commenter's request.
75622.083	Non-Residential Lighting Alterations	Jim Benya	Commenter notes that the some inspecting authorities would like to see Section 141 to be simplified. Also, the inspecting authotities do not want to be issuing permits and checking retrofit projects unless they require a reconstruction or a major renovation.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.
75622.084	Non-Residential Lighting Alterations	Jim Benya	Commenter notes that simple payback is something that should be part of the equation.	No	Staff finds that the life cycle cost approach used for the rulemaking is consistent with State policy and with statutory requirements, and that moving to simple payback would not address the factors that the Energy Commission is required to consider. For that reason, staff finds that moving to simple payback would not be appropriate.

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75622.085	Non-Residential Lighting Alterations	Ecology Action	You shouldn't be compelled into the most onerous parts of the Code (referring to daylighting and multi-level lighting controls) just because you're doing some simple wiring changes under that job.	Partially	The final language does not require multi-level lighting for wiring alteration projects, instead requiring only bi-level controls, and requires daylighting for wiring alteration projects only when there are ten or more luminaires in the primary or skylit daylit zone. Staff finds this to be appropriate in responding to the commenter's concern about project costs while also responding to concerns from other commenters relating to energy savings.
75622.086	Non-Residential Lighting Alterations	SCE	In some of the concerns I've heard, it's not necessarily the Code that's the issue, it may be the way that the programs are administered, or the baseline that's used for the basis for energy savings.	N/A	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language.
75622.087	Non-Residential Lighting Alterations	Jon McHugh	Commenter (Jon McHugh) concerns about Exception 2 of the Lighting Alterations requirements and also cautions on the changes considered for luminaire component replacements.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised language avoids creating circumstances where comprehensive TI projects would be able to avoid meeting specifications for lighting controls. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.
75622.088	Non-Residential Lighting Alterations	Jon McHugh	Commenter (Jon McHugh) states the other code requirements to be met in order for getting a construction permit for lighting alterations.	No	Staff is aware of the other code requirements described by the commenter, however these other code requirements are beyond the scope of the Building Energy Efficiency Standards. Staff therefore does not find that addressing these issues within this regulatory language would be appropriate.
75622.089	Non-Residential Lighting Alterations	Jon McHugh	Commenter (Jon McHugh) suggests to find out key obstacles for lighting alterations - luminaire component replacements. Also to make sure to achieve savings for all existing buildings.	Yes	Staff worked with stakeholders to identify three key obstacles: determining floor areas in order to calculate lighting power densities, running new wire to support bi-level lighting, and performing acceptance testing when only a limited number of controls are installed. The final language is specific in addressing these issues, consistent with the commenter's request.
75622.09	Non-Residential Lighting Alterations	Jon McHugh	Commenter (Jon McHugh) states that energy saving information prepared by lighting retrofitters for CPUC use, may also be used for showing Title 24 compliance.	Partially	The contents of forms or other compliance documents is not specified in regulation, and thus is outside the scope of the current rulemaking. Nonetheless, as staff develop appropriate compliance forms for the 2016 Standards staff will consider what information is already collected for lighting alteration projects and will align data requirements if and when appropriate to do so.
75622.091	Non-Residential Lighting Alterations	Jon McHugh	A concern I still have is how are we coming back to this with a gut remodel if indeed that gut remodel allows you, as long as you don't move any of the junction boxes, you could just put in a lower wattage fixture and you're done, there's no control requirement, there's not even an LPD requirement at that point.	Yes	The final language specifies that projects moving walls or ceilings must comply with requirements appropriate for "gut-rehab" types of projects, including LPA and control requirements.
75622.093	Non-Residential Lighting Alterations	ABI	Commenter (Mark Spahn) notes that the one for one replacement is a little bit archaic; commenter would prefer that reduction specifications not be per-luminaire.	Yes	The Final Express Terms does not include the one-for-one replacement language, and the percent reduction pathway is no longer per-luminaire, consistent with the commenter's comments.
75622.094	Non-Residential Lighting Alterations	ABI	20 percent can be a problem in some cases, not because they're not reaching the LPD, but because the light levels aren't high enough in those specific cases.	No	The existing standards based on establishing lighting power allowances do not specify a minimum light output for the installed lighting. As the proposed percent reduction compliance path is equivalent to this existing compliance path, and the existing compliance path does not include the requested requirement, staff does not find that establishing minimum light output levels for this pathway would be appropriate. As establishing minimum light levels would be a new requirement under the Building Energy Efficiency Standards, staff encourage the commenter to submit a complete proposal for the 2019 code cycle.
75622.095	Non-Residential Lighting Alterations	NCPA	Commenter (Jonathan Changis) states that he is very pleased and relieve see this coming forward (see the proposed lighting alterations language).	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75622.096	Non-Residential Lighting Alterations	PG&E	Commenter (Pat Eilett) notes that there should be a threshold for requiring building permits for lighting alterations and not a complete abandonment (of permit process for lighting alterations).	Yes	Staff edited the Final Express Terms to include percentile and numeric thresholds in the same manner as the 2013 Standards.
75622.097	Non-Residential Lighting Alterations	George Nesbitt	Commenter (George Nesbitt) questions if performance method is allowed for meeting lighting alterations requirement.	N/A	Staff find that the performance compliance approach is available for lighting alteration projects, but notes that the cost of modeling the building solely for a change to the building's lighting is not generally taken for small projects.
75622.098	Non-Residential Lighting Alterations	George Nesbitt	Commenter (George Nesbitt) notes that a lot of lighting retrofits are about replacing bulbs and ballasts and not even fixtures.	No	The comment neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language.
75622.099	Non-Residential Lighting Alterations	AES	Commenter (Nathan of AES) provides an example where there are more power savings when changing the number of luminaires than there would be with one for one replacement of luminaires.	Yes	The final language does not include the prior "one-to-one" specification, and allows projects that provide energy savings by changing the number of installed luminaires.
75622.1	Non-Residential Lighting Alterations	Dave Pfund	Commenter (Dave Pfund) asks if "either/or 20 percent per luminaire or LPD compliance as the code trigger threshold for lighting alterations.	No	The Final Express Terms maintain the existing requirements of Sections 141.0(b)2I through L, with an added, optional compliance path to help streamline certain projects. As the stated goal of the effort is cleanup and streamlining of existing code, staff finds that retaining the existing requirements of Section 141.0(b)2I (and therefore keeping separate the new percent reduction compliance path) is appropriate.
75622.101	Non-Residential Lighting Alterations	California Municipal	We have many smaller and medium utilities throughout the State of California that looked very closely to these improvements, and so we are definitely happy to hear that the Energy Commission is considering some of the changes, especially regarding lighting. We request that the proposed lighting alteration language be effective retroactively.	Partially	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding the effective date of the changes, the effective date for revisions to the Building Code is a matter of law; the Energy Commission cannot establish an earlier effective date for specific provisions of the Code.
75622.103	Non-Residential Lighting Alterations	Michael Jouaneh	Commenter (Michael Jouaneh) suggests that for a major lighting retrofit, more than 20 percent of Luminaires in the space, should have to meet the same control requirements as new construction. Further, he suggests to require all lighting alterations, one for one are not, that have to be met in the table, for simplification of the language.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path requiring a 35% or 50% reduction, which is consistent with the commenter's request for a higher reduction threshold. Staff finds that the final language provides appropriate cost relief without diminishing energy savings. Staff does not find that applying the complete requirements for new construction to projects where potentially 80% of the lighting system is untouched would be appropriate, noting the testimony of stakeholders and commenters that alteration projects are very different from new construction. Staff considered incorporating the requirements of the percent reduction pathway into Table 141.0-E, but found that retaining the requirements of 2013 in this Table without incorporating the new, optional pathway would provide greater clarity for professionals that are familiar with the 2013 requirements.
75622.104	Non-Residential Lighting Alterations	Energy Coalition	Commenter (Marc Costa) questions what is required for the documentation of existing conditions for the Exception 2 of the proposed lighting alteration language.	N/A	The contents of forms or other compliance documents is not specified in regulation, and thus is outside the scope of the current rulemaking. Nonetheless, staff has been and will continue to work with stakeholders in developing appropriate compliance forms, including forms for documenting existing lighting conditions.
75622.105	Non-Residential Lighting Alterations	Dave Pfund	Commenter (Marc Costa) questions what is required for the documentation of existing conditions for the Exception 2 of the proposed lighting alteration language.	N/A	Compliance forms are not adopted into regulation; the comment therefore neither objects to specific language in the proposed regulation nor makes a recommendation to modify the proposed language. Staff will develop appropriate forms following adoption of the 2016 Standards, based on the adopted changes in the Final Express Terms.

Comment Numbers	Subject	Name of Commenter	Summary of the Comment	Was the Change Made?	The Commission's Response to the Comment
75622.106	Non-Residential Lighting Alterations	NRDC	Commenter (Meg Waltner) supports the proposed lighting alteration language. She also notes that have not been updates (correction) for Tables 140.6—B and C, there are several lighting categories that don't respond to ASHRAE.	N/A	Staff appreciates the comment of support for clarifying and streamlining the nonresidential lighting alteration requirements. Regarding Tables 140.6-B and C, the following answer was provided at the business meeting: MR. LEE: Yeah, the Case Team does a very good job, they have looked into these different scenarios, they have compared the ASHRAE requirements and to the Title 24. And so based on their analysis, that is not either feasible, or it's not cost—effective to match up to the ASHRAE in those few spaces or lighting function areas. (P175)
75647.001	Non-Residential Lighting Alterations	NECA/IBEW/LMCC	Commenter's letter asserts that proposed changes to lighting alteration requirements allow increased energy use, and that changes should be provided an additional 45-day public comment period.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings. Separately, staff finds that potential changes to streamline and simplify the lighting alterations sections are explicitly specified in the Notice of Proposed Action, and that 15-day public comment periods were therefore appropriate.
75654.001	Non-Residential Lighting Alterations	CASE Team for PG&E	Commenter asserts that proposed changes to lighting alteration requirements allow increased energy use.	Partially	The language was revised to address stakeholder concerns of lost savings and reduced stringency. The revised regulations specify an optional percent reduction compliance path equivalent to the requirements in Table 141.0-E at the 85% of LPD specification, and provide an exception to acceptance testing limited to projects altering 20 or fewer luminaires. Staff finds that the final language provides appropriate cost relief without diminishing expected energy savings.
75655.001	Non-Residential Lighting Alterations	ProAutomated	ProAutomated supports increasing the standards for lighting controls implementation and acceptance testing as a way to improve the environment, provide additional jobs, and reduce electricity usage in the State of California. The new standard of only 20% improvement in power consumption over existing fixtures is too low, and will not support changes beyond what existing economics incentivizes. We strongly support raising this to a minimum of a 50% improvement in lighting efficacy in order to push the state forward as a leader in energy efficiency.	Partially	Staff established a 50% power reduction threshold for three specific occupancy types, in order to guarantee that the "worst performing" buildings of these types would achieve power reductions under this option equivalent to those achieved by installing 85% or less of the lighting power allowance for the space, and established a 35% requirement for all other occupancy types. Staff finds that for the other occupancy types a 50% reduction would require savings beyond what is required by the 85% of lighting power allowance path, and thus would no longer be equivalent to that path.
75655.002	Non-Residential Lighting Alterations	ProAutomated	The current language regarding "20 or fewer controls" should be modified to reflect a measurement that is less ambiguous. As currently stated, would a lighting panel with 24 dimming zones and only 1 wall control be classified as 24 controls or only 1? We recommend switching to a measurement based on wattage affected.	Yes	Staff edited the threshold to refer to 20 luminaires, rather than controls, to address issues of ambiguity regarding how integrated control systems would be counted.