



INITIAL STATEMENT OF REASONS

FOR PROPOSED BUILDING STANDARDS OF THE CALIFORNIA ENERGY COMMISSION

REGARDING THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 1 and PART 6 (CALIFORNIA ENERGY CODE)

2013 BUILDING ENERGY EFFICIENCY STANDARDS – NONRESIDENTIAL ACCEPTANCE TEST TECHNICIAN CERTIFICATION DOCKET NUMBER 12-BSTD-2 CEC-400-2012-013-ISOR

I. Introduction

This Initial Statement of Reasons (“ISOR”) describes the purposes, rationales, and necessity of the California Energy Commission’s proposed amendments to its energy efficiency standards for buildings, which would go into effect on January 1, 2014, if adopted by the Energy Commission and approved by the California Building Standards Commission.¹ This ISOR fulfills the requirements of California’s Administrative Procedure Act (see Government Code section 11340 et seq.).

The Energy Commission welcomes comments on the ISOR and on the proposed building standards that the ISOR describes. Please see the accompanying Notice of Proposed Action (“NOPA”), also dated September 5, 2012, for instructions on how to submit comments electronically, on paper, and orally at Energy Commission hearings.

A. A Brief History of the Energy Commission's Building Standards

In 1976 the Commission adopted its first building standards, which addressed space heating and cooling, water heating, and windows, in addition to insulation. Since then the Commission has updated the standards in conjunction with the Building Standards Commission’s publication of all the State’s building codes, usually every three years. The updates incorporate the most advanced developments in energy conservation (e.g., new lighting technologies, new types of roofs that reflect unneeded heat) to ensure that new construction in California will be as energy-efficient as possible, consistent with the requirement that the standards be cost-effective for

¹ The ISOR refers to the proposed standards in various ways, e.g., “2013 Building Energy Efficiency Standards,” “proposed standards,” and “2013 Standards”; in addition, it uses “amendments” or “proposed regulations” as a shorthand reference for new provisions, revisions to existing provisions, and deletions of existing provisions, in the Parts 1, 6, and 11 of Title 24 of the California Code of Regulations.

consumers. Today, the Standards contain energy efficiency – and, as recently required by statute, water efficiency requirements for newly constructed buildings, additions to existing buildings, alterations to existing buildings, and, in the case of nonresidential buildings, repairs to existing buildings.

**B. Scope of this Rulemaking and Problem the Agency Intends to Address
(Gov Code section 11346.2(b)(1))**

Since 2005 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) have required that specific equipment and controls installed in nonresidential buildings be tested according to Energy Commission adopted “acceptance testing” protocols to demonstrate their proper installation before the building is approved for occupancy. Compliance documentation must be signed by both the Field Technician who completed the acceptance testing and the licensed person who is legally responsible for the installation under the Business and Professions Code. The current Standards do not specify qualifications or training that the Field Technician must meet to be authorized to complete the acceptance testing.

Studies and stakeholder comments provided to the Energy Commission and discussed below indicate that acceptance testing occurring in the field is currently inadequate. Because of inconsistent levels of training, Field Technicians as a whole are not providing the necessary assurances that the installed systems are delivering the energy efficiencies expected by building owners and required by law. The 2011 study by the California Commissioning Collaborative, *Evaluation of Title 24 Acceptance Testing Enforcement and Effectiveness*, found that contractor training is insufficient and that approximately half of the existing acceptance tests could not be successfully performed by the contractors participating in the study. This is the problem the Commission seeks to address with the proposed regulations.

The proposed regulations create an independent third party certification and training program to ensure Field Technicians and their employers acquire minimal level of training and skill to verify nonresidential lighting controls and mechanical systems comply with existing energy efficiency building standards.

These newly proposed regulations will be amended to the 2013 Standards that were adopted by the Energy Commission in May, 2012. The combined 2013 Standards update will then be considered for approval by the Building Standards Commission in December, 2012.

C. The Specific Purpose, Rationale, and Necessity of Each Section of the Proposed Amendments (Gov Code section 11346.2(b)(1))

1. TITLE 24, PART 1, CHAPTER 10 (ADMINISTRATIVE REGULATIONS), ARTICLE 1 – ENERGY BUILDING REGULATIONS

The specific purpose, rationale, and necessity of each section of the proposed amendments, in accordance with Government Code section 11346.2, subd. (b)(1), is provided below.

SECTION 10-102 – DEFINITIONS

Definitions are necessary when terms are not commonly known or may be subject to multiple meanings. The proposed regulations use terms which are not commonly known therefore requiring definitions so that entities and individuals regulated by the proposed regulations, as well as the public, can understand the scope and elements of the program. Providing definitions also eliminates potential ambiguity by ensuring consistency as to the meaning of terms and the function of the proposed program. The proposed regulations add new definitions for those regulated by the proposed nonresidential acceptance test Technician certification requirements. New definitions are proposed for Acceptance Test Technician, Lighting Controls Acceptance Test Technician, Mechanical Acceptance Test Technician, Acceptance Test Technician Certification Provider, (ATTCP), Lighting Controls Acceptance Test Technician Certification Provider, and Mechanical Acceptance Test Technician Certification Provider. These definitions will improve the

clarity of the newly proposed certification requirements in Section 10-103-A, thereby increasing the ability of the building industry to comply with these regulations.

SECTION 10-103-A – NONRESIDENTIAL LIGHTING CONTROLS ACCEPTANCE TEST REQUIREMENTS

The proposed regulations in this section add requirements for Acceptance Test Technician Certification Providers to train and certify Lighting Controls Acceptance Test Technicians. In addition:

Subsection 10-103-A(a) Scope. This subsection explains that the scope of these newly proposed certification requirements apply only to the technicians who complete the lighting controls acceptance tests required in Title-24, Part 6, Sections 130.4, their employers, and the organizations that train and certify these professionals. This subsection provides clarity and specificity to these newly proposed regulations.

Subsection 10-103-A(b) Industry Certification Threshold. In order to ensure an adequate number of certified technicians are available to perform inspections, the two thresholds described in this section must be met before Acceptance Test Technicians are required to be certified. The first threshold is the requirement of at least 1000 certified Acceptance Test Technicians. The Commission found 1000 to be an adequate number based on an estimate that at least 20,000 nonresidential buildings will require acceptance testing each year and a reasonable inspection rate of 20 systems per year per technician. It is of primary importance to ensure that this new compliance program does not result in a back log of systems that need to be inspected. The threshold of 1000 certified technicians will address this issue.

The second threshold that must be met before the activation of the certification requirements in Section 10-103-A is that the majority of qualified testing professionals must be given the opportunity to become certified. The Energy Commission will review the Acceptance Test Technician Certification Provider applications required in Subsection 10-103-A(c) to determine if, in their entirety, qualified professional groups have been given an opportunity to become certified. Establishing these industry certification thresholds allows time for acceptance testing professionals to become certified, ensures that there are sufficient certified professionals to deliver the testing services required in Title-24, Part 6, and prevents one or more professional groups from gaining a market advantage by becoming certified before other professional groups have been given that same opportunity. These requirements ensure that these newly proposed regulations minimize the added costs of complying with the requisite acceptance testing in Title-24, Part 6, for both building owners and acceptance test Technicians, thereby improving the cost-effectiveness of these regulations.

Subsection 10-103-A(c) Qualifications and Approval of Certification Providers. The heart of the new program is the Energy Commission's certification of entities, called Providers, which will train and certify the Acceptance Test Technicians. Section (c) and corresponding subsections lay out criteria for Energy Commission's approval of a Provider and the required training Providers must give to prospective Acceptance Test Technicians and Technician employers. These sections also require documentation of training by Providers so the Energy Commission receives the appropriate data to oversee the Acceptance program and ensure consistent quality among Providers.

These sections are necessary to allow industry and the public to understand what information is required to become a Provider and what training must Acceptance Test Technicians undergo to be certified. Without this section the program could not function as the regulated community would not know what is required to become a Provider and there would be no consistency or quality control over the training of Acceptance Test Technicians.

Subsection 10-103-A(c)1. Requirements for Applicant ATTCPs to Document Organizational Structure. This subsection explains that ATTCPs must provide documentation on the structure

of their organization as part of the application to the Energy Commission, when seeking approval to provide certification services to the Acceptance Test Technicians. This requirement is necessary to ensure, at a minimum, that the organizations providing certification services to the building industry have a business structure that will effectively train and certify Acceptance Test Technicians. The requirements in this subsection will improve compliance with the Standards by providing certification services that will produce Acceptance Test Technicians better qualified to perform the acceptance tests required in the Standards.

Subsection 10-103-A(c)2. Requirements for Certification of Employers and Technicians.

This subsection requires the ATTCPs to provide certification and oversight of both Acceptance Test Employers and Acceptance Test Technicians. The intent of this requirement is to improve the quality of lighting control acceptance testing in nonresidential buildings by making sure that both the technicians and their employers are properly aware of all aspects of the lighting controls acceptance test procedures and compliance documentation. This requirement will improve the effectiveness of the lighting control acceptance tests required in the Standards.

Subsection 10-103-A(c)3. Requirements for Applicant ATTCPs to Document Training and Certification Procedures.

This subsection requires the ATTCPs to document their training and certification procedures in the application provided to the Energy Commission, when seeking approval to provide certification services to Acceptance Test Technicians. This requirement is critical to the success of these regulations because it will provide the documentation necessary for the Energy Commission to determine the appropriateness and effectiveness of the training and certification processes used by ATTCPs to ready Acceptance Test Technicians for acceptance testing according to the requirements of the Standards. The requirements in this subsection will improve compliance with the Standards by providing certification services that will produce Acceptance Test Technicians better qualified to perform the acceptance tests required in the Standards.

Subsection 10-103-A(d). Requirements for AT TCPs to Provide Annual Reports.

This subsection requires the ATTCPs to provide annual reports to the Energy Commission that document the training and certification activity during that year, including any administrative actions taken by the ATTCP to correct problems with Acceptance Test Technician field performance. These annual reports will also be used to review the performance of ATTCPs as part of the Energy Commission's oversight responsibilities for these proposed regulations. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for lighting controls acceptance testing, as specified in Title 24, Part 6.

Energy Commission staff determined that an Annual report is the least burdensome method to allow the Commission to receive timely information to appropriately regulate the program. The report would also serve as the primary means for the Commission to assess the number of Acceptance Technicians being trained to ensure inspection backlogs are not developing.

Subsection 10-103-A(e) Interim Approval of Lighting Controls Acceptance Test Technician Certification Provider.

The Acceptance Testing Certification program needs start as soon as possible to ensure statewide energy efficiency goals are met and that building owners are receiving the economic benefits of efficient lighting systems. It will take some time for the Commission to certify Providers who in turn train and certify Acceptance Test Technicians. To address this problem this subsection specifies that the California Advanced Lighting Controls Training Program shall be given interim approval as a lighting controls ATTCP, conditioned on their submittal of an application that contains the information listed in Subsections 10-103-A(c)1, 10-103-A(c)2, and 10-103-A(c)3. The interim approval of CALCTP as an ATTCP is also conditioned on CALCTP complying will all future requirements of ATTCPs. This subsection also specifies that the electrical contractors and their employers who have been certified by CALCTP shall qualify as Lighting Controls Acceptance Test Technicians upon successful completion of training on the Title 24, Part 6 lighting controls acceptance testing procedures and compliance

documentation. The interim approval of CALCTP will expire on July 1, 2014 or six months after the implementation date of the 2013 Standards. The Energy Commission believes that interim approval is not necessary after CALCTP completes its application to become an ATTCP and the Energy Commission reviews and approves the application, which should take six months or less. These requirements ensure that these newly proposed regulations minimize the added costs of complying with the requisite acceptance testing in Title-24, Part 6, for both building owners and acceptance test technicians, by streamlining the certification of electrical contractors to complete lighting controls acceptance testing, and the approval of CALCTP as an ATTCP. Since the CALCTP-certified electrical contractors are a significant portion of the market providing acceptance testing services, these proposed regulations should reduce the costs of providing high quality acceptance tests, thereby improving the cost-effectiveness of these regulations.

Subsection 10-103-A(f) Application Review and Determination. This subsection lists the steps that the Energy Commission will take to review, take public comment, and approve or deny ATTCP applications. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for lighting controls acceptance testing, as specified in Title 24, Part 6. Without this section there may not be consistency in how applications are reviewed and approved leading to confusion and uncertainty.

Subsection 10-103-A(g) Review by the Energy Commission. This subsection specifies the authority of the Energy Commission to revoke ATTCP authorization to perform training and certification services to the building industry according to the regulations in Section 1230 et. Seq. of Title 20 of the California Code of Regulations, given evidence that an ATTCP is no longer following the procedures documented in their application to the Energy Commission for approval as an ATTCP. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for lighting controls acceptance testing, as specified in Title 24, Part 6. This section is necessary as part of the Energy Commission's regulatory oversight of the Acceptance Test program. The Commission must have the authority to review the performance of Providers and de-certify if necessary to maintain the quality and reputation of the program. This section provides notice to the regulated community and the public that revocation of certification is within the authority of the Energy Commission.

SECTION 10-103-B – NONRESIDENTIAL MECHANICAL ACCEPTANCE TEST REQUIREMENTS

The proposed regulations in this section add requirements for Acceptance Test Technician Certification Providers to train and certify Mechanical Acceptance Test Technicians. In addition:

Subsection 10-103-B(a) Scope. This subsection explains that the scope of these newly proposed certification requirements apply only to the technicians who complete the mechanical acceptance tests required in Title-24, Part 6, Sections 120.5, their employers, and the organizations that train and certify these professionals. This subsection provides clarity and specificity to these newly proposed regulations.

Subsection 10-103-B(b) Industry Certification Threshold. In order to ensure an adequate number of certified technicians are available to perform inspections, the two thresholds described in this section, must be met before Acceptance Test Technicians are required to be certified. The first threshold is the requirement of at least 1000 certified Acceptance Test Technicians. The Commission found 1000 to be an adequate number based on an estimate that at least 20,000 nonresidential buildings will require acceptance testing each year and a reasonable inspection rate of 20 systems per year per technician. It is of primary importance to insure that this new compliance program does not result in a back log of systems that need to be inspected. The threshold of 1000 certified technicians will address this issue. This threshold of 1000 certified technicians applies to the entire list of mechanical acceptance tests in Title 24, Part 6, Section 120.5. If technicians are only certified to complete a subset of these tests, then there must be

1000 such certified technicians before these certification requirements takes effect for this subset of mechanical tests. The Energy Commission established a separate certification requirement threshold for a specific subset of mechanical tests because these are the tests that are expected to be installed in the smaller (less than 50,000 square feet) nonresidential buildings, which are the majority of buildings expected to be constructed or modified in the future. With this separate certification threshold, these requirements can potentially take effect sooner than the certification requirements for the entirety of the mechanical acceptance tests, and therefore improve the majority of future mechanical system installations and operations by way of improving the quality of the inspection and testing processes employed by certified technicians who focus their work on the mechanical systems in small and medium commercial buildings.

The second threshold that must be met before the activation of the certification requirements in Section 10-103-A is that the majority of qualified testing professionals must be given the opportunity to become certified. The Energy Commission will review the Acceptance Test Technician Certification Provider applications required in Subsection 10-103-A(c) to determine if, in their entirety, qualified professional groups have been given an opportunity to become certified. Establishing these industry certification thresholds allows time for acceptance testing professionals to become certified, ensures that there are sufficient certified professionals to deliver the testing services required in Title-24, Part 6, and prevents one or more professional groups from gaining a market advantage by becoming certified before other professional groups have been given that same opportunity. These requirements ensure that these newly proposed regulations minimize the added costs of complying with the requisite acceptance testing in Title-24, Part 6, for both building owners and acceptance test Technicians, thereby improving the cost-effectiveness of these regulations.

Subsection 10-103-B(c) Qualifications and Approval of Certification Providers).

The heart of the new program is the Energy Commission's certification of entities, called Providers, which will train and certify the Acceptance Test Technicians. Section (c) and corresponding subsections lay out criteria for Energy Commission's approval of a Provider and the required training Providers must give to prospective Acceptance Test Technicians and Technician employers. These sections also require documentation of training by Providers so the Energy Commission receives the appropriate data to oversee the certification program and ensure consistent quality among Providers.

These sections are necessary to allow industry and the public to understand what information is required to become a Provider and what training must Acceptance Test Technicians undergo to be certified. Without this section the program could not function as the regulated community would not know what is required to become a Provider and there would be no consistency or quality control over the training of Acceptance Test Technicians.

Subsection 10-103-B(c)1. Requirements for Applicant ATTCPs to Document Organizational Structure. This subsection explains that ATTCPs must provide documentation on the structure of their organization as part of the application to the Energy Commission, when seeking approval to provide certification services to the Acceptance Test Technicians. This requirement is necessary to ensure, at a minimum, that the organizations providing certification services to the building industry have a business structure that will effectively train and certify Acceptance Test Technicians. The requirements in this subsection will improve compliance with the Standards by providing certification services that will produce Acceptance Test Technicians better qualified to perform the acceptance tests required in the Standards.

Subsection 10-103-B(c)2. Requirements for Certification of Employers and Technicians. This subsection requires the ATTCPs to provide certification and oversight of both Acceptance Test Employers and Acceptance Test Technicians. The intent of this requirement is to improve the quality of mechanical acceptance testing in nonresidential buildings by making sure that both the technicians and their employers are properly aware of all aspects of the mechanical acceptance test procedures and compliance documentation. This requirement will improve the

effectiveness of the lighting control acceptance tests required in the Standards.

Subsection 10-103-B(c)3. Requirements for Applicant ATTCPs to Document Training and Certification Procedures. This subsection requires the ATTCPs to document their training and certification procedures in the application provided to the Energy Commission, when seeking approval to provide certification services to Acceptance Test Technicians. This requirement is critical to the success of these regulations because it will provide the documentation necessary for the Energy Commission to determine the appropriateness and effectiveness of the training and certification processes used by ATTCPs to ready Acceptance Test Technicians for acceptance testing according to the requirements of the Standards. The requirements in this subsection will improve compliance with the Standards by providing certification services that will produce Acceptance Test Technicians better qualified to perform the acceptance tests required in the Standards.

Subsection 10-103-B(d). Requirements for AT TCPs to Provide Annual Reports. This subsection requires the ATTCPs to provide annual reports to the Energy Commission that document the training and certification activity during that year, including any administrative actions taken by the ATTCP to correct problems with Acceptance Test Technician field performance. These annual reports will also be used to review the performance of ATTCPs as part of the Energy Commission's oversight responsibilities for these proposed regulations. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for mechanical acceptance testing, as specified in Title 24, Part 6.

Energy Commission staff determined that an Annual report is the least burdensome method to allow the Commission to receive timely information to appropriately regulate the program. The report would also serve as the primary means for the Commission to assess the number of Acceptance Technicians being trained to ensure inspection backlogs are not developing

Subsection 10-103-B(e) Interim Approval of Mechanical Acceptance Test Technician Certification Provider. The Acceptance Test program needs start as soon as possible to ensure statewide energy efficiency goals are met and that building owners are receiving the economic benefits of efficient lighting systems. It will take some time for the Commission to certify Providers who in turn train and certify Acceptance Test Technicians. To address this problem this subsection specifies that the Associated Air Balance Council (AABC), the National Environmental Balancing Bureau (NEBB), and the Testing Adjusting and Balancing Bureau (TABB) shall be given interim approval as a mechanical ATTCPs for specific mechanical system acceptance tests, conditioned on their submittal of applications that contain the information listed in Subsections 10-103-B(c)1, 10-103-B(c)2, and 10-103-B(c)3. This interim approval is limited to the specific mechanical system acceptance tests that the Energy Commission determined, based on the review of representative training materials provided by NEBB and TABB, that technicians certified by any one of these organizations are qualified to complete. The interim approval of AABC, NEBB, and TABB as ATTCPs is also conditioned on each organization complying will all future requirements of ATTCPs. This subsection also specifies that the technicians and employers who have been certified by AABC, NEBB, or TABB shall qualify as Mechanical Acceptance Test Technicians upon successful completion of training on the Title 24, Part 6 mechanical acceptance testing procedures and compliance documentation. The interim approval of AABC, NEBB, and TABB will expire on July 1, 2014 or six months after the implementation date of the 2013 Standards. The Energy Commission believes that interim approval is not necessary after these entities complete their applications to become ATTCPs and the Energy Commission reviews and approves these applications, which should take six months or less. These requirements ensure that these newly proposed regulations minimize the added costs of complying with the requisite acceptance testing in Title-24, Part 6, for both building owners and acceptance test technicians, by streamlining the certification of Test And Balance (TAB) contractors to complete mechanical acceptance testing, and the approval of AABC, NEBB, and TABB as ATTCPs. Since the TAB contractors are a significant portion of the market providing

acceptance testing services, these proposed regulations should reduce the costs of providing high quality acceptance tests, thereby improving the cost-effectiveness of these regulations.

Subsection 10-103-B(f) Application Review and Determination. This subsection lists the steps that the Energy Commission will take to review, take public comment, and approve or deny ATTCP applications. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for mechanical acceptance testing, as specified in Title 24, Part 6. Without this section there may not be consistency in how applications are reviewed and approved leading to confusion and uncertainty.

Subsection 10-103-B(g) Review by the Energy Commission. This subsection specifies the authority of the Energy Commission to revoke ATTCP authorization to perform training and certification services to the building industry according to the regulations in Section 1230 et. Seq. of Title 20 of the California Code of Regulations, given evidence that an ATTCP is no longer following the procedures documented in their application to the Energy Commission for approval as an ATTCP. The requirements in this subsection are necessary for the Energy Commission to effectively implement the training and certification of Acceptance Test Technicians for mechanical acceptance testing, as specified in Title 24, Part 6.

This section is necessary as part of the Energy Commission's regulatory oversight of the Acceptance Test program. The Commission must have the authority to review the performance of Providers and de-certify if necessary to maintain the quality and reputation of the program. This section provides notice to the regulated community and the public that revocation of certification is within the authority of the Energy Commission.

2. TITLE 24, PART 6 – EFFICIENCY STANDARDS

SECTION 120.5 – REQUIRED NONRESIDENTIAL MECHANICAL SYSTEM ACCEPTANCE

The proposed regulations add a requirement in this section that all nonresidential mechanical acceptance tests be completed by a certified Mechanical Acceptance Test Technician, as specified in Section 10-103-A. This new requirement will improve code compliance by ensuring that mechanical systems are inspected and tested by professionals specifically trained and credentialed to provide these services.

SECTION 130.4 – REQUIRED NONRESIDENTIAL LIGHTING CONTROL ACCEPTANCE

The proposed regulations add a requirement in this section that all nonresidential lighting controls acceptance tests be completed by a certified Lighting Controls Acceptance Test Technician, as specified in Section 10-103-A. This new requirement will improve code compliance by ensuring that lighting controls are inspected and tested by professionals specifically trained and credentialed to provide these services.

II. TECHNICAL, THEORETICAL, AND EMPIRICAL STUDIES, REPORTS, AND SIMILAR DOCUMENTS RELIED UPON (Gov Code 11346.2(b)(3))

The documents listed below are in the record of the Energy Commission's rulemaking proceeding on the proposed standards and are available to the public.

- Mills, Evan: Building commissioning: a golden opportunity for reducing energy costs and greenhouse gas emissions in the United States, Energy Efficiency, ISSN 1570-646X, Volume 4 Number 2, <http://evanmills.lbl.gov/pubs/pdf/cx-enef-mills.pdf>. (2011)
- UC Berkeley: California Workforce, Education and Training Needs Assessment for Energy Efficiency, Distributed Generation and Demand Response. (2011)
- California Commissioning Collaborative: Evaluation of Title-24 Acceptance Testing Enforcement and Effectiveness, September 2011.

- Joint Committee on Energy and Environmental Policy: 2013 Building Energy Efficiency Standards Acceptance Testing and Documentation, October 25, 2011.
- International Brotherhood of Electrical Workers: 2013 Building Energy Efficiency Standards Acceptance Testing and Documentation, November 3, 2011.
- California Commissioning Collaborative: Letter regarding the Energy Commission's Proposal to Certify Lighting Controls and Mechanical System Acceptance Test Field Technicians, March 5, 2012.

III. ECONOMIC IMPACT ANALYSIS (Gov Code sections 11346.2(b)(1)) 11346.3(b), 11346.3(c))

The Energy Commission has made a preliminary assessment on whether, and if so to what extent, the proposed Standards will affect the following:

- (A) The creation or elimination of jobs within the State of California: Jobs will not be created or eliminated because the proposed standards create a certification program to ensure existing technicians are appropriately trained and certified by primarily existing organizations. The standards themselves are neutral as to whether people or entities enter the inspection and certification industry.
- (B) The creation of new businesses or the elimination of existing businesses within the State of California: Businesses will not be created or eliminated because the proposed standards create a certification program to ensure existing technicians are appropriately trained and certified by primarily existing organizations. The standards themselves are neutral as to whether people or entities enter the inspection and certification industry.
- (C) The expansion of businesses currently doing business within the State of California: It is possible that businesses currently providing energy efficiency compliance-related services in California will expand.
- (D) The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment: The proposed regulations will provide building owners with a high quality verification of the energy saving features of their buildings' lighting and mechanical components therefore ensuring the building owner is obtaining the benefits of their investment in various technologies. The people of California benefit as less energy is used, eliminating the need for development of additional generation and the environmental damage associated with such energy projects including greenhouse gas emissions. In addition, by developing a rigorous training and certification program the state will benefit by increasing the awareness among the building industry of the economic and environmental value of energy efficiency that may lead to over all gains in energy efficiency in other areas of building systems.

Use of Reports: The proposed regulations require that each business that applies for and gains approval to be an Acceptance Test Technician Certification Provider submit an annual report to the Energy Commission. This annual report will summarize the training and certification activities conducted by the Certification Provider over the course of the year. Requiring this annual report enables the Energy Commission to determine if each Certification Provider is adequately completing its obligations as specified in these proposed regulations. Each Certification Provider benefits from this requirement because it creates fair competition in the marketplace, providing the Energy Commission with the information necessary to verify that each Certification Provider is adequately training and certifying acceptance test technicians and their employers. This reporting requirement is only placed on businesses that choose to apply for and become Acceptance Test Technician Certification Providers.

IV. CONSIDERATION OF REASONABLE ALTERNATIVES, INCLUDING THOSE THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS (Gov Code sections 11346.2(b)(5)(A-B))

For more than thirty-five years, legislative enactments and state energy policies have directed the Energy Commission to adopt cost-effective building standards to improve energy efficiency and thereby improve the state's economy, energy security, and environment. (See, e.g., Public Resources Code sections 25007 and 25402(a)(1), (a)(3), & (b)(3); 2007 Integrated Energy Policy Report.)

At this time the Commission is not aware of alternatives to the proposed regulations that would be more effective than the proposed regulations in achieving the energy-efficiency goals of these directives, or that would be equally effective and less burdensome. Nor has the Commission identified any reasonable alternative that would lessen any adverse impact on small businesses (or any other economic interests), and which were considered but rejected. (See Gov. Code, § 11346.2, subd. (b)(5)). Stakeholders from the potentially regulated community recommended the Acceptance Test program because the data and studies cited above, indicate that current testing and system approval, which lacks standardized methodology and quality control, is inadequate to ensure electrical and mechanical system are correctly functioning to reduce energy usage.

As described below, a number of alternatives proposed by stakeholders to the initially developed regulations were considered and accepted as part of the pre-rulemaking public participation process. (See Public Resources Code § 25402, subd. (c)(2)). After engaging stakeholders the Commission concluded the use of regulations to create an Acceptance Test Program is the lowest cost mechanism to ensure that energy efficiency measures installed in commercial buildings are actually working and providing energy and economic benefit to the building owner and public in general.

It is important that the public and building owners have confidence that mandated energy efficient measures, which do have a cost, are actually producing a real, quantifiable economic benefit as well as a general environmental benefit. No other process has been proposed other than regulations to best ensure public confidence in building standards through an Acceptance Testing Certification process.

Any alternatives that lessen any adverse economic impacts, but likewise do not achieve the energy savings of the proposed regulations, would not be a reasonable fulfillment of the Energy Commission's statutory obligations. As described in the Informative Digest section of the companion Notice of Proposed Action, the energy savings anticipated from these measures are being counted on and are required in order to achieve the State's policy goals of reducing greenhouse gas emissions and having new buildings that require zero net energy.

The following summarizes the comments from specific stakeholders made during the pre-rulemaking activities organized by the Energy Commission, along with a description of how each issue was addressed:

In response to comments from mechanical and electrical contractors, commissioning providers, engineers, and controls contractors who are concerned that the certification requirements may decidedly and unjustly favor the test and balance technicians and contractors, the Energy Commission established threshold criteria such that the proposed regulations will not take effect until the Energy Commission determines that there is a sufficient number of certified technicians and that the majority of known acceptance test professionals, such as those represented by the docketed concerns, have been given legitimate opportunities to gain Acceptance Test Technician certification.

The test and balance (TAB) certification organizations (TABB, AABC, and NEBB) requested that the proposed regulations grant interim approval to each TAB organization because the TAB technicians and contractors are already trained and certified to complete the mechanical acceptance tests. In response, the Energy Commission revised the proposed regulations to grant interim approval to TABB, AABC, and NEBB for specific mechanical acceptance tests. The Energy Commission reviewed TAB training curricula and determined that the TAB technicians should be competent to complete a subset of the mechanical system acceptance tests, once they have received training on the specific inspection, testing and documentation requirements of each test.

The California Advanced Lighting Controls Training Program (CALCTP) requested that the proposed regulations grant interim approval to CALCTP because their certified electrical contractors are already trained to complete the lighting controls acceptance tests. In response, the Energy Commission revised the proposed regulations to grant interim approval to CALCTP for the lighting controls acceptance tests. The Energy Commission reviewed CALCTP training curricula and determined that the CALCTP-certified electrical contractors should be competent to complete the lighting control acceptance tests, once they have received training on the specific inspection, testing and documentation requirements of each test.

V. FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS (Gov Code section 11346.2(b)(6))

The discussion in the immediately preceding Section V., on the consideration of alternatives, demonstrates that the Commission has already made extensive changes in preliminary versions of the proposed regulations in order to reduce impacts on businesses, especially small businesses. (See Gov. Code, § 11346.2, subd. (b)(6).) By pre-certifying Providers and ensuring an adequate number of Acceptance Testing Technicians from a variety of industry sectors the regulations will keep testing competitively priced, reducing overall costs to small businesses purchasing and leasing new buildings.

The proposed regulations may increase the costs of construction slightly – but the cost of certifying mechanical or lighting system is a small percentage of the total cost of the system and equipment. Independent of requirements in the APA to assess impacts on small business, PRC section 25402(b)(3) requires that energy efficiency regulations “be cost-effective when taken in their entirety and when amortized over the economic life of the structure compared with historic practice.” Here this requirement is met because the energy efficiency standard saves more money on energy bills over the life of the building, than the cost of implementing the requirement. Therefore, the entities that ultimately pay the increased costs of construction – building purchasers and owners -- will save substantially *more* money on their energy bills than the increase in the purchase price due to the certification requirements.

The Energy Commission has assumed a cost per certification that is commensurate with a 40-hour process of training for technicians (\$2,000) and an 8-hour process of training for technician supervisors (\$500). The total first year costs of complying with these proposed regulations for all of the technicians and employers expected to become certified will be approximately \$3.75 million.

The total statewide benefit from these proposed regulations is estimated conservatively at \$4 million per year, estimated by assuming that a small fraction of the total savings expected from the 2013 Standards update for nonresidential buildings are due to the proper installation of lighting and mechanical systems that are the subject of this proposed regulation for industry certification. This small fraction is derived from the expectation that: (1) at least half (50%) of the energy savings from the 2013 Standards will be from the installation of lighting controls and mechanical systems, the same systems that require verification through the acceptance testing that is the subject of these regulations, and (2) verifying that these systems are installed and

operating properly will improve the realized energy efficiency of these systems by at least one percent (1%).

These proposed regulations will not have an adverse statewide economic impact because the expected costs are largely one-time certification expenses, whereas the energy savings that will accrue will continue to be realized year after year. Even in the first year of implementation, the costs of these regulations will be more than offset by energy savings. The financial benefits of completing acceptance testing of newly installed lighting and mechanical equipment is confirmed by the national study on the benefits of commissioning by Evan Mills, Lawrence Berkeley National Laboratory (see Documents Relied On, above).

VI. MANDATE OF SPECIFIC TECHNOLOGY (Gov Code sections 11340.1(a); 11346.2(b)(5):

The proposed standards do not mandate a specific technology but create an independent third party certification and training program to ensure Field Technicians and their employers acquire minimal level of training and skill to verify nonresidential lighting controls and mechanical systems comply with existing energy efficiency building standards.

VII. DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS (Gov Code section 11346.2(b)(7)

The proposed revisions to the Standards do not duplicate or conflict with any federal regulations. (See Gov. Code, 11346.2, subd. (b)(7)). There are no federal regulations that prescribe building standards for non-federal buildings.