APPENDIX A

NONSUBSTANTIAL ERRATA TO 15-DAY LANGUAGE

OF

NONRESIDENTIAL ACCEPTANCE TESTING CERTIFICATION AMENDMENTS

TO THE

2013 BUILDING ENERGY EFFICIENCY STANDARDS

TITLE 24, PARTS 1 AND 6

NONSUBSTANTIAL ERRATA TO THE
2013 BUILDING ENERGY EFFICIENCY STANDARDS 15-DAY LANGUAGE
Revised December 11, 2012

The Energy Commission proposes the following changes to the 15-Day Language to correct typographical and transcription errors, inadvertent inconsistencies, improve phrasing, and make other improvements that clarify without materially altering the requirements, rights, responsibilities, conditions, or prescriptions contained in the 15-Day Language.

Summary of Changes

Issue (1):
The current language in sections 10-103-A(b)(2) and 10-103-A(c)(3)(B)(iii) require that the technicians have expertise in lighting. The intent of the regulation was to require expertise in lighting controls.

This is an improvement in the phrasing of the requirement and has no other material effect on the proposed regulations.

Issue (2):
The current language in sections 10-103-A(c)(3)(F) and 10-103-B(c)(3)(F) refer to a "third party oversight" that should read as "independent oversight."

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Issue (3):
The current language in sections 10-103-A(c)(3)(G) and 10-103-B(c)(3)(G) capitalize "Enforcement Agency," which should be lowercase.

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Issue (4):
The current language in section 10-103-A(c)(3)(B)(i)(m) refers to an older edition of the Illuminating Engineering Society of North America Lighting Handbook, Edition 9, when it should refer to the current Edition 10.

This is an inadvertent inconsistency and has no other material effect on the proposed regulations.

Specific Changes to Proposed Regulation

Changes from the 15-Day Language are shown in double-underline for additions and double strike-through for deletions, and in gray highlight to distinguish from the 15-Day Language.

ARTICLE 1 – ENERGY BUILDING REGULATIONS

SECTION 10-102 – DEFINITIONS

ACCEPTANCE TEST TECHNICIAN is a Field Technician as defined in Section 10-102 who is certified by an authorized Acceptance Test Technician Certification Provider pursuant to the

requirements of Sections 10-103-A or 10-103-B ~~person who performs the nonresidential acceptance test requirements~~.

LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN is a professional certified by an authorized Lighting Controls Acceptance Test Technician Certification Provider to perform nonresidential lighting controls acceptance tests and complete the documentation required for nonresidential lighting controls acceptance tests as required by the Building Energy Efficiency Standards ~~Title 24, Part 6~~.
MECHANICAL ACCEPTANCE TEST TECHNICIAN is a professional certified by an authorized Mechanical Acceptance Test Technician Certification Provider to perform nonresidential mechanical acceptance tests and complete the documentation required for nonresidential mechanical acceptance tests as required by ~~Title 24, Part 6~~ the Building Energy Efficiency Standards.

ACCEPTANCE TEST EMPLOYER is a person or entity who employs an Acceptance Test Technician and is certified by an authorized Acceptance Test Technician Certification Provider.

LIGHTING CONTROLS ACCEPTANCE TEST EMPLOYER is a person or entity who is the employer of a Lighting Controls Acceptance Test Technician and certified by an authorized Lighting Controls Acceptance Test Technician Certification Provider.

MECHANICAL ACCEPTANCE TEST EMPLOYER is a person or entity who is the employer of a Mechanical Acceptance Test Technician and certified by an authorized Mechanical Acceptance Test Technician Certification Provider.

ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Acceptance Test Technicians and Acceptance Test Employers according to the requirements of Sections 10-103-A ~~and~~ or B.

LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Lighting Controls Acceptance Test Technicians and Lighting Controls Acceptance Test Employers according to the requirements of Section 10-103-A.

MECHANICAL ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER is an agency, organization or entity approved by the Energy Commission to train and certify Mechanical Acceptance Test Technicians and Mechanical Acceptance Test Employers according to the requirements of Section 10-103-B.

NOTE: Authority cited: Sections 25402 ~~and~~, 25402.1, and 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), ~~and~~ 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 10-103-A – NONRESIDENTIAL LIGHTING CONTROLS ACCEPTANCE TEST TRAINING AND CERTIFICATION ~~REQUIREMENTS~~

(a) **Scope.** The requirements of this section apply to nonresidential lighting control Acceptance Test Technicians and Employers, and the Certification Providers that train and certify them.

(b) **Industry Certification Threshold.** Lighting Controls Acceptance Test Technician and Employer certification requirements shall take effect when the Energy Commission finds that each of the following conditions are met. Until such time that 10-103-A(b)1 and 10-103-A(b)2 are met, Field Technicians are allowed to complete the acceptance test requirements in Section 130.4 without completing the Acceptance Test Technician certification requirements.

1. **Number of Certified Acceptance Test Technicians.** There shall be no less than ~~1,000~~ 300 Lighting Controls Acceptance Test Technicians certified to perform the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 130.4. The number of certified Acceptance Test Technicians shall be demonstrated by Certification Provider-prepared reports submitted to the Energy Commission.

2. **Industry Coverage by Certification Provider(s).** The Certification Provider(s) approved by the Energy Commission, in their entirety, shall provide reasonable access to certification for technicians representing the majority of the following industry groups: electrical contractors, certified general electricians, professional engineers, controls installation and start-up contractors and certified commissioning professionals who have verifiable training, experience and expertise in lighting controls and electrical systems. The Energy Commission will determine whether in their entirety reasonable access to certification is provided by considering factors such as certification costs commensurate with the complexity of the training being provided, certification marketing materials, prequalification criteria, class availability, and curriculum.

(c) **Qualifications and Approval of Certification Providers.** The Acceptance Test Technician Certification Providers (ATTCPs) shall submit a written application to the Energy Commission with a summary and the related background documents to explain how the following criteria and procedures have been met:

1. **Requirements for Applicant ATTCPs to Document Organizational Structure.** ATTCPs shall provide written explanations of the organization type, by-laws, and ownership structure. ATTCPs shall explain in writing how their certification program meets the qualification requirements of Title 24, Part 1, Section 10-103-A(c). ATTCPs shall explain in their application to the Energy Commission how their organizational structure and procedures include independent oversight, quality assurance, supervision and support of the acceptance test training and certification processes.

2. **Requirements for Certification of Employers.** The ATTCPs shall provide written explanations of how their program includes certification and oversight of Acceptance Test Employers to ensure quality control and appropriate supervision and support for Acceptance Test Technicians.

3. **Requirements for Applicant ATTCPs to Document Training and Certification Procedures.** ATTCPs shall provide a complete copy of all training and testing procedures, manuals, handbooks and materials. ATTCPs shall explain in writing how their training and certification procedures include, but are not limited to, the following:

   A. **Training Scope.** Both hands-on experience and theoretical training such that Acceptance Test Technicians demonstrate their ability to apply the ~~Title 24, Part 6~~ Building Energy Efficiency Standards acceptance testing and documentation requirements to a comprehensive variety of lighting control systems and networks that are reflective of the range of systems currently

encountered in the field. The objective of the hands-on training is to practice and certify competency in the technologies and skills necessary to perform the acceptance tests.

B. Lighting Controls Acceptance Test Technician Training.

(i) Curricula. Acceptance Test Technician Certification Provider training curricula for Lighting Control Acceptance Test Technicians shall include, but not be limited to, the analysis, theory, and practical application of the following:

- a) Lamp and ballast systems;
- b) Line voltage switching controls;
- c) Low voltage switching controls;
- d) Dimming controls;
- e) Occupancy sensors;
- f) Photosensors;
- g) Demand responsive signal inputs to lighting control systems;
- h) ~~Title 24~~Building Energy Efficiency Standards required lighting control systems;
- i) ~~Title 24~~Building Energy Efficiency Standards required lighting control system-specific analytical/problem solving skills;
- j) Integration of mechanical and electrical systems for ~~Title 24~~ Building Energy Efficiency Standards required lighting control installation and commissioning;
- k) Safety procedures for low-voltage retrofits (≤~~>~~50 volts) to control ~~medium~~ line voltage systems (120 to 480 volts);
- l) Accurate and effective tuning, calibration, and programming of ~~Title 24~~Building Energy Efficiency Standards required lighting control systems;
- m) Measurement of illuminance according to the Illuminating Engineering Society's measurement procedures as provided in the IESNA Lighting Handbook, ~~9th Edition, July 2000~~ 10th Edition, 2011, which are incorporated by reference ~~on standard measurement grids~~;
- n) ~~Title 24~~Building Energy Efficiency Standards lighting controls acceptance testing procedures; and
- o) ~~Title 24~~Building Energy Efficiency Standards acceptance testing compliance documentation for lighting controls.
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(ii) **Hands-on training.** The ATTCP shall describe in their application the design and technical specifications of the laboratory boards, equipment and other elements that will be used to meet the hands-on requirements of the training and certification.

(iii ~~ii~~) **Prequalification.** Participation in the technician certification program shall be limited to persons who have at least three years of verifiable professional experience and expertise in lighting controls and electrical systems as determined by the Lighting Controls ATTCPs, to demonstrate their ability to understand and apply the Lighting Controls Acceptance Test Technician certification training. The criteria and review processes used by the ATTCP to determine the relevance of technician professional experience shall be described in the ATTCP application to the Energy Commission.

(iv~~iii~~) **Instructor to Trainee Ratio. A** sufficient ratio of instructors to participants in classroom and laboratory work to ensure integrity and efficacy of the curriculum and program. The ATTCP shall document in its application to the Energy Commission why its instructor to trainee ratio is sufficient based on industry standards and other relevant information.

(v ~~iv~~) **Tests.** A written and practical test that demonstrates each certification applicant's competence in all specified subjects. The ATTCPs shall retain all results of these tests for five years from the date of the test.

(vi ~~v~~) **Recertification.** Requirements and Procedures for recertification of Acceptance Test Technicians each time ~~Title 24, Part 6~~ the Building Energy Efficiency Standards is updated with new and/or modified acceptance test requirements.

C. **Lighting Controls Acceptance Test Employer Training.** Training for Lighting Controls Acceptance Test Employers shall consist of a single class or webinar consisting of at least four hours of instruction ~~minimum of a one day class~~ that covers the scope and process of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 130.4.

D. **Complaint Procedures.** ~~Procedures described in writing for notifying building departments and the public that the Acceptance Test Certification Provider will accept complaints regarding the performance of any certified acceptance test technician or employer, and procedures for how the Provider will address these complaints.~~ The ATTCPs shall describe in their applications to the Energy Commission procedures for accepting and addressing complaints regarding the performance of any certified acceptance test technician or employer, and explain how building departments and the public will be notified of these procedures.

E. **Certification Revocation Procedures.** ~~Procedures described in writing for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with requirements for the issuance of building permits or other specified actions that justify decertification.~~ The ATTCPs shall describe in their applications to the Energy Commission procedures for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with the documentation requirements of these regulations or other specified actions that justify decertification.

F. **Quality Assurance and Accountability.** The ATTCP shall describe in their application to the Energy Commission how their certification business practices include quality assurance, independent oversight and accountability measures, such as, ~~third party~~ independent oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 130.4 ~~training curricula~~. ~~Third party~~ Independent oversight may be demonstrated by accreditation under the ISO/IEC 17024 standard.

G. **Certification Identification Number and Verification of ATT Certification Status.** Upon certification of an ATT, the ATTCP shall issue a unique certification identification number to the ATT. The ATTCP shall maintain an accurate record of the certification status for all ATTs that the ATTCP has certified. The ATTCP shall provide verification of current ATT certification status upon request to authorized document Registration Provider personnel or ~~Enforcement Agency~~ enforcement agency personnel to determine the ATT's eligibility to sign Certificate of Acceptance documentation according to all applicable requirements in Sections 10-103-A, 10-102, 10-103(a)4, and the Reference Joint Appendix JA7.

(d) **Requirements for ATTCPs to Provide Annual Reports.** The ATTCP shall provide an annual report to the Energy Commission summarizing the certification services provided over the reporting period, including the total number of Acceptance Test Technicians and Employers certified by the ATTCP ~~agency~~ (a) during the reporting period and (b) to date. The ATTCP shall~~, and a~~ report to the Energy Commission what adjustments have been made to the training curricula, if any, to address changes to the Building Energy Efficiency Standards Acceptance Testing requirements, adopted updates to the Building Energy Efficiency Standards or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field, no less than six months prior to the effective date of any newly adopted, or amendment to existing, Building Energy Efficiency Standards~~, as to what adjustments have been made to the training curricula, if any, to address changes to Title 24 Acceptance Testing requirements or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field. The annual report shall also~~ All required reports shall contain a signed certification that the ATTCP has met all requirements for this program.

(e) **Interim Approval of Lighting Controls Acceptance Test Technician Certification Provider.** The California Advanced Lighting Controls Training Program (CALCTP) shall be approved as an authorized Lighting Controls Acceptance Test Technician Certification Provider subject to the below conditions:

1. Interim approval shall be conditioned upon submittal of an application that contains the information required by subdivision (c)(1)-(3), including documentation ~~that demonstrates~~ demonstrating that the certification includes training and testing on ~~Title 24~~ the Building Energy Efficiency Standards lighting control acceptance testing procedures and ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing compliance documentation for lighting control systems.

2. Technicians who have been certified by CALCTP prior to the inclusion of training on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Lighting Control Acceptance Test Technicians upon successful completion of a class or webinar consisting of at least four hours of instruction on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.

3. Employers who have been certified by CALCTP prior to the inclusion of training on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Lighting Control Acceptance Test Employer upon successful completion of a class or webinar consisting of at least four hours of instruction on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.

4. Interim approval for all ATTCPs shall end on the later date of, July 1, 2014 or six months after the effective date of the 2013 California Building Energy Efficiency Standards. The Energy Commis-

sion may extend the interim approval period for up to six additional months total, if it determines the threshold requirements in Section 10-103-A(b) have not been met for the certification requirements to take effect. If the Energy Commission determines that an extension is necessary, its determination shall be approved at a publicly-noticed meeting.

5. During the interim approval period, including any possible extensions to this interim period, the Energy Commission may approve additional ATTCP providers~~-~~meeting the requirements of 10-103-A(c).

(f) **Application Review and Determination.** The Energy Commission shall review Acceptance Test Technician Certification Provider applications according to the criteria and procedures in Section 10-103-A(c) to determine if such providers are approved to provide acceptance testing certification services.

1. Energy Commission staff will review and validate all information received on Acceptance Test Technician Certification Provider applications, and determine that the application is complete and contains sufficient information to be approved.

2. The Executive Director may require that the applicant provide additional information as required by staff to fully evaluate the Provider application~~s~~. The Executive Director shall provide a copy of its evaluation to interested persons and provide a reasonable ~~an~~ opportunity for public comment.

3. The Executive Director shall issue a written recommendation that the Energy Commission designate the applicant as an authorized Acceptance Test Technician Certification Provider or deny the ~~that~~ Provider application.

4. The Energy Commission shall make a final decision on the application at a publically noticed hearing.

(g) **Review by the Energy Commission.**
If the Energy Commission determines there is a violation of these regulations or that an Acceptance Test Technician Certification Provider is no longer providing adequate certification services, the Energy Commission may revoke the authorization of the Acceptance Test Technician Certification Provider pursuant to Section 1230 et. seq. of Title 20 of the California Code of Regulations.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 10-103-B – NONRESIDENTIAL MECHANICAL ACCEPTANCE TEST ~~REQUIREMENTS~~TRAINING AND CERTIFICATION

(a) **Scope.** The requirements of this section apply to ~~and~~ nonresidential mechanical Acceptance Test Technicians and Employers and the Certification Providers that train and certify them.

(b) **Industry Certification Threshold.** Mechanical Acceptance Test Technician and Employer certification requirements shall take effect when the Energy Commission finds that each of the following conditions are met. Until such time that 10-103-B(b)1 and 10-103-B(b)2 are met, Field Technicians are allowed to complete the acceptance test requirements in Section 120.5 without completing the Acceptance Test Technician certification requirements.

1. **Number of Certified Acceptance Test Technicians.**
   A. There shall be no less than ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to perform all of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5, except as provided in Subsection 10-103-B(b)1.B, below. The number of certified Mechanical Acceptance Test Technicians shall be demonstrated by Certification Provider-provided reports submitted to the Energy Commission.

   B. If there are less than ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to perform all of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5, than there shall be at least ~~1,000~~ 300 Mechanical Acceptance Test Technicians certified to complete the following tests:
      (i) NA7.5.1 Outdoor Air Ventilation Systems
      (ii) NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
      (iii) NA7.5.4 Air Economizer Controls
      (iv) NA7.5.5 Demand Control Ventilation Systems
      (v) NA 7.5.6 Supply Fan Variable Flow Controls
      (vi) NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
      (vii) NA7.5.10 Automatic Demand Shed Controls

      The number of certified Mechanical Acceptance Test Technicians shall be demonstrated by Certification Provider-provided reports submitted to the Energy Commission.

2. **Industry Coverage by Certification Provider(s).** The Mechanical Acceptance Test Technician Certification Provider(s) approved by the Energy Commission, in their entirety, provide reasonable access to certification for technicians representing the majority of the following industry groups: Professional engineers, HVAC installers, mechanical contractors, TAB certified technicians, controls installation and startup contractors and certified commissioning professionals who have verifiable training, experience and expertise in HVAC systems. The Energy Commission will determine reasonable access by considering factors such as certification costs commensurate with the complexity of the training being provided, certification marketing materials, prequalification criteria, class availability and curriculum.

(c) **Qualifications and Approval of Certification Providers.** The Acceptance Test Technician Certification Providers (ATTCPs) shall submit a written application to the Energy Commission with a summary and

the necessary background documents to explain how the following criteria and procedures have been met:

1. **Requirements for Applicant ATTCPs to Document Organizational Structure.** ATTCPs shall provide written explanations of the organization type, by-laws, and ownership structure. **ATTCPs shall explain in writing how their** certification program meets the qualifications of ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 10-103-B(c). ATTCPs shall explain in their application to the Energy Commission how their organizational structure and procedures include independent oversight, quality assurance, supervision and support of the acceptance test training and certification processes.

2. **Requirement for Certification of Employers.** The ATTCPs shall provide written explanations of how their program includes certification and oversight of Acceptance Test Employers to ensure quality control and appropriate supervision and support for Acceptance Test Technicians.

3. **Requirements for Applicant ATTCPs to Document Training and Certification Procedures.** ATTCPs shall provide a complete copy of all training and testing procedures, manuals, handbooks and materials. ATTCPs shall explain in writing how their training and certification procedures include, but are not limited to, the following:
   A. Both hands-on experience and theoretical training such that Acceptance Test Technicians demonstrate their ability to apply the ~~Title 24, Part 6~~ Building Energy Efficiency Standards acceptance testing and documentation requirements to a comprehensive variety of mechanical systems and controls that is reflective of the range of systems currently encountered in the field.

   B. Mechanical Acceptance Test Technician Training.
      (i) Curricula: Acceptance Test Technician Certification Provider training curricula for Mechanical Acceptance Test Technicians shall include, but not be limited to, the analysis, theory, and practical application of the following:
         - a) Constant volume system controls;
         - b) Variable volume system controls;
         - c) Air-side economizers;
         - d) Air distribution system leakage;
         - e) Demand controlled ventilation with CO_2 sensors;
         - f) Demand controlled ventilation with occupancy sensors;
         - g) Automatic demand shed controls;
         - h) Hydronic valve leakage;
         - i) Hydronic system variable flow controls;
         - j) Supply air temperature reset controls;
         - k) Condenser water temperature reset controls;
         - l) Outdoor air ventilation systems;
         - m) Supply fan variable flow controls;
         - n) Boiler and chiller isolation controls;
         - o) Fault detection and diagnostics for packaged direct-expansion units;
         - p) Automatic fault detection and diagnostics for air handling units and zone terminal units;
         - q) Distributed energy storage direct-expansion air conditioning systems;

- r) Thermal energy storage systems;
- s) ~~Title 24~~Building Energy Efficiency Standards mechanical acceptance testing procedures; and
- t) ~~Title 24~~Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems.
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(ii) **Hands-on training.** The ATTCP shall describe in their application the design and technical specifications of the laboratory boards, equipment and other elements that will be used to meet the hands-on requirements of the training and certification.

(iii ~~ii~~) **Prequalification:** Participation in the technician certification program shall be limited to persons who have at least three years of verifiable professional experience and expertise in mechanical controls and systems as determined by the Mechanical ATTCPs to demonstrate an ability to understand and apply the Mechanical Acceptance Test Technician certification training. The criteria and review processes used by the ATTCP to determine the relevance of technician professional experience shall be described in the ATTCP application to the Energy Commission.

(iv ~~iii~~) **Instructor to Trainee Ratio. A** sufficient ratio of instructors to participants in classroom and laboratory work to ensure integrity and efficacy of the curriculum and program. The ATTCP shall document in its application to the Energy Commission why its instructor to trainee ratio is sufficient based on industry standards and other relevant information.

(v ~~iv~~) **Tests.** A written and practical test that demonstrates each certification applicant's competence in all specified subjects. The ATTCPs shall retain all results of these tests for five years from the date of the test.

(vi ~~v~~) **Recertification.** Requirements and Procedures for recertification of Acceptance Test Technicians each time ~~Title 24, Part 6~~the Building Energy Efficiency Standards is updated with new and/or modified acceptance test requirements. Re-certification requirements and procedures shall only apply to those specific elements that are new and/or modified in future updates to Building Energy Efficiency Standards.

C. **Mechanical Acceptance Test Employer Training.** Training for Mechanical Acceptance Test Employers shall consist of a ~~minimum of a one day~~ single class or webinar consisting of at least four hours of instruction that covers the scope and process of the acceptance tests in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5.

D. **Complaint Procedures.** Procedures described in writing for notifying building departments and the public that the Acceptance Test Certification Provider will accept complaints regarding the performance of any certified acceptance test technician or employer, and procedures for how the Provider will address these complaints.

E. **Certification Revocation Procedures.** Procedures described in writing for revoking the certification of Acceptance Test Technicians and Employers based upon poor quality or ineffective work, failure to perform acceptance tests, falsification of documents, failure to comply with the documentation requirements of these regulations ~~for the issuance of building permits~~ or other specified actions that justify decertification.

F. **Quality Assurance and Accountability.** The ATTCPs shall describe in their applications to the Energy Commission how their certification business practices include quality assurance, independent oversight and accountability measures such as ~~third party~~ independent oversight of the certification processes and procedures, visits to building sites where certified technicians are completing acceptance tests, certification process evaluations, building department surveys to determine acceptance testing effectiveness, and expert review of the training curricula developed for ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section ~~130.4~~ 120.5 ~~expert review of training curricula~~. ~~Third party~~ Independent oversight may be demonstrated by accreditation under the ISO/IEC 17024 standard.

G. **Certification Identification Number and Verification of ATT Certification Status.** Upon certification of an ATT, the ATTCP shall issue a unique certification identification number to the ATT. The ATTCP shall maintain an accurate record of the certification status for all ATTs that the ATTCP has certified. The ATTCP shall provide verification of current ATT certification status upon request to authorized document Registration Provider personnel or ~~Enforcement Agency~~ enforcement agency personnel to determine the ATT's eligibility to sign Certificate of Acceptance documentation according to all applicable requirements in Sections 10-103-B, 10-102, 10-103(a)4, and Reference Joint Appendix JA7.

~~4. The Mechanical ATTCP shall demonstrate sufficient quality assurance, oversight and accountability measures to ensure quality control of its certification program, including third party assessment and accreditation pursuant to the ISO/IEC 17024 standard. Quality assurance shall include site visits to ensure the integrity of the curriculum and training.~~

(d) **Requirements for ATTCPs to Provide Annual Reports.** The ATTCP shall provide an annual report to the Energy Commission summarizing the certification services provided over the reporting period, including the total number of Acceptance Test Technicians and Employers certified by the agency (a) during the reporting period and (b) to date. The ATTCP shall report to the Energy Commission what adjustments have been made to the training curricula, if any, to address changes to the Building Energy Efficiency Standards Acceptance Testing requirements, adopted updates to the Building Energy Efficiency Standards or to ensure training is reflective of the variety of lighting controls that are currently encountered in the field, no less than six months prior to the effective date of any newly adopted, or amendment to existing Building Energy Efficiency Standards~~, and a report as to what adjustments have been made to update the training curricula, if any, to ensure training is reflective of the mechanical systems and controls that are currently encountered in the field and of any changes to Title 24 Acceptance Testing requirements. The annual report shall also~~ All required reports shall contain a signed certification that the ATTCP has met all requirements for this program.

(e) **Interim Approval of Mechanical Acceptance Test Technician Certification Providers**. The Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), and the Testing Adjusting and Balancing Bureau (TABB) shall be conditionally approved as authorized Mechanical Acceptance Test Technician Certification Providers, each separately subject to the below conditions:

1. Interim approval shall only apply to Mechanical Acceptance Test Technicians completing the following mechanical acceptance tests required in ~~Title 24, Part 6~~ Building Energy Efficiency Standards, Section 120.5. Mechanical Acceptance Test Technicians certified by one of the above organizations do not have interim approval to complete all other mechanical acceptance tests in ~~Title~~

~~24, Part 6~~ Building Energy Efficiency Standards, Section 120.5. ~~Interim approval applies only to the following mechanical acceptance tests:~~

A. NA7.5.1 Outdoor Air Ventilation Systems
B. NA7.5.2 Constant Volume, Single Zone Unitary Air Conditioners and Heat Pumps
C. NA7.5.4 Air Economizer Controls
D. NA7.5.5 Demand Control Ventilation Systems
E. NA 7.5.6 Supply Fan Variable Flow Controls
F. NA7.5.7, NA7.5.9 Hydronic System Variable Flow Controls
G. NA7.5.10 Automatic Demand Shed Controls

2. Interim approval shall be conditioned upon submittal of an application that contains the information required by subdivision (c)(1)-(3), including documentation ~~that demonstrates~~ demonstrating that the certification includes training and testing on ~~Title 24~~ the Building Energy Efficiency Standards mechanical acceptance testing procedures and ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing compliance documentation for mechanical systems.

3. Technicians who have been certified by AABC, NEBB, or TABB prior to the inclusion of training on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Mechanical Acceptance Test Technicians upon successful completion of a class or webinar on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.

4. Employers who have been certified by AABC, NEBB, or TABB prior to the inclusion of training on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation shall qualify as a Mechanical Acceptance Test Employer upon successful completion of a class or webinar consisting of at least four hours of instruction on ~~Title 24~~ the Building Energy Efficiency Standards acceptance testing procedures and compliance documentation.

5. Interim approval for all ATTCPs shall end on the later date of July 1, 2014 or six months after the effective date of the 2013 California Building Energy Efficiency Standards. The Energy Commission may extend the interim approval period for up to six additional months total, if it determines the threshold requirements in Section 10-103-B(b) have not been met for the certification requirements to take effect. If the Energy Commission determines that an extension is necessary, its determination shall be approved at a publicly-noticed meeting.

6. During the interim approval period, including any possible extensions to this interim period, the Energy Commission may approve additional ATTCP providers meeting the requirements of 10-103-B(c).

(f) **Application Review and Determination.** The Energy Commission shall review Acceptance Test Technician Certification Provider applications according to the criteria and procedures in Section 10-103-B(c) to determine if such providers are approved to provide acceptance testing certification services.

1. Energy Commission staff will review and validate all information received on Acceptance Test Technician Certification Provider applications, and determine that the application is complete and contains sufficient information to be approved.

2. The Executive Director may require that the applicant provide additional information as required by staff to fully evaluate the Provider application. The Executive Director shall provide a copy of its evaluation to interested persons and provide an opportunity for public comment.

3. The Executive Director shall issue a written recommendation that the Energy Commission designate the applicant as an authorized Mechanical Acceptance Tester Certification Provider or deny the Provider application ~~that designation~~.

4. The Energy Commission shall make a final decision on the application at a publically noticed hearing.

(g) **Review by the Energy Commission.**
If the Energy Commission determines there is a violation of these regulations or that an Acceptance Test Technician Certification Provider is no longer providing adequate certification services, the Energy Commission may revoke the authorization of the Acceptance Test Technician Certification Provider pursuant to Section 1230 et. seq. of Title 20 of the California Code of Regulations.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

EFFICIENCY STANDARDS
CALIFORNIA CODE OF REGULATIONS
TITLE 24, PART 6

SECTION 120.5 – REQUIRED NONRESIDENTIAL MECHANICAL SYSTEM ACCEPTANCE

(a) Before an occupancy permit is granted the following equipment and systems shall be certified as meeting the Acceptance Requirements for Code Compliance, as specified by the Reference Nonresidential Appendix NA7. A Certificate of Acceptance shall be submitted to the enforcement agency that certifies that the equipment and systems meet the acceptance requirements:

1. Outdoor air ventilation systems shall be tested in accordance with NA7.5.1

2. Constant volume, single zone unitary air conditioning and heat pump unit controls shall be tested in accordance with NA7.5.2.

3. Duct systems shall be tested in accordance with NA7.5.3 where either:
   A. They are new duct systems that meet the criteria of Sections 140.4(l)1, 140.4(l)2, and 140.4(l)3; or
   B. They are part of a system that meets the criteria of Section 141.0(b)2D.

4. Air economizers shall be tested in accordance with NA7.5.4.

EXCEPTION to Section 120.5(a)4: Air economizers installed by the HVAC system manufacturer and certified to the Commission as being factory calibrated and tested are exempt from the Functional Testing section of the Air Economizer Controls acceptance test as described in NA7.5.4.2.

1. Demand control ventilation systems required by Section 120.1(c)3 shall be tested in accordance with NA7.5.5
2. Supply fan variable flow controls shall be tested in accordance with NA7.5.6
3. Hydronic system variable flow controls shall be tested in accordance with NA7.5.7 and NA7.5.9
4. Boiler or chillers that require isolation controls per Section 140.4(k)2 or 140.4(k)3 shall be tested in accordance with NA7.5.7
5. Hydronic systems with supply water temperature reset controls shall be tested in accordance with NA7.5.8
6. Automatic demand shed controls shall be tested in accordance with NA7.5.10.
7. Fault Detection and Diagnostics (FDD) for Packaged Direct-Expansion Units shall be tested in accordance with NA7.5.11.
8. Automatic fault detection and diagnostics (FDD) for air handling units and zone terminal units shall be tested in accordance with NA7.5.12.
9. Distributed Energy Storage DX AC Systems shall be tested in accordance with NA7.5.13.
10. Thermal Energy Storage (TES) Systems shall be tested in accordance with NA7.5.14.
11. Supply air temperature reset controls shall be tested in accordance with NA7.5.15.
12. Water-cooled chillers served by cooling towers with condenser water reset controls shall be tested in accordance with NA7.5.16.

13. When an Energy Management Control System is installed, it shall functionally meet all of the applicable requirements of Part 6.

(b) ~~The acceptance test requirements in this section shall be performed by a Certified Mechanical Acceptance Test Technician who is employed by a Certified Mechanical Acceptance Test Employer as specified in Title 4, Part 1, Section 10-103-A. A copy of the certification documentation shall be attached to the acceptance and documentation forms as required in Section 10-103(a).~~ When certification is required by Title 24, Part 1, Section 10-103-B, the acceptance testing specified by Section 120.5(a) shall be performed by a Certified Mechanical Acceptance Test Technician (CMATT). If the CMATT is operating as an employee, the CMATT shall be employed by a Certified Mechanical Acceptance Test Employer. The CMATT shall disclose on the Certificate of Acceptance a valid CMATT certification identification number issued by an approved Acceptance Test Technician Certification Provider. The CMATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

NOTE: Authority cited: Sections 25402, 25402.1, and 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.

SECTION 130.4 –LIGHTING CONTROL ACCEPTANCE AND INSTALLATION CERTIFICATE REQUIREMENTS

(a) **Lighting Control Acceptance Requirements.** Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor and outdoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4. A Certificate of Acceptance shall be submitted to the enforcement agency under Section 10-103(a) of Part 1, that:

1. Certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Part 6.
2. Completes the applicable procedures in Reference Nonresidential Appendix NA7.6, NA7.7, NA7.8, and NA7.9; and submits all applicable compliance forms.
3. Certifies that automatic daylight controls comply with Section 130.1(d) and Reference Nonresidential Appendix NA7.6.1
4. Certifies that lighting shut-OFF controls comply with Section 130.1(c) and Reference Nonresidential Appendix NA7.6.2
5. Certifies that demand responsive controls comply with Section 130.1(e) and Reference Nonresidential Appendix NA7.6.3
6. Certifies that outdoor lighting controls comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8.

(b) **Lighting Control Installation Certificate Requirements.** To be recognized for compliance with Part 6 an Installation Certificate shall be submitted in accordance with Section 10-103(a) for any lighting control system, Energy Management Control System, track lighting integral current limiter, track lighting supplementary overcurrent protection panel, interlocked lighting system, lighting Power Adjustment Factor, or additional wattage available for a videoconference studio, in accordance with the following requirements, as applicable:

1. Certification that when a lighting control system is installed to comply with lighting control requirements in Part 6 it complies with the applicable requirements of Section 110.9; and complies with Reference Nonresidential Appendix NA7.7.1.
2. Certification that when an Energy Management Control System is installed to function as a lighting control required by Part 6 it functionally meets all applicable requirements for each application for which it is installed, in accordance with Sections 110.9, 130.0 through 130.5, 140.6 through 150.0, and 150.2; and complies with Reference Nonresidential Appendix NA7.7.2.
3. Certification that line-voltage track lighting integral current limiters comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.3.
4. Certification that line-voltage track lighting supplementary overcurrent protection panels comply with the applicable requirements of Section 110.9 and installed wattage has been determined in accordance with Section 130.0(c); and comply with Reference Nonresidential Appendix NA7.7.4.
5. Certification that interlocked lighting systems used to serve an approved area comply with Section 140.6(a)1; and comply with Reference Nonresidential Appendix NA7.7.5.
6. Certification that lighting controls installed to earn a lighting Power Adjustment Factor (PAF) comply with Section 140.6(a)2; and comply with Reference Nonresidential Appendix NA7.7.6.
7. Certification that additional lighting wattage installed for a videoconference studio complies with Section 140.6(c)2Gvii; and complies with Reference Nonresidential Appendix NA7.7.7.

~~(b)~~ (c) ~~The acceptance test requirements in this section shall be performed by a Certified Lighting Controls Acceptance Test Technician who is employed by a Certified Lighting Controls Acceptance Test Employer as specified in Title 4, Part 1, Section 10-103-A. A copy of the certification documentation shall be attached to the acceptance and documentation forms as required in Section 10-103(a).~~ When certification is required by Title 24, Part 1, Section 10-103-A, the acceptance testing specified by Section 130.4 shall be performed by a Certified Lighting Controls Acceptance Test Technician (CLCATT). If the CLCATT is operating as an employee, the CLCATT shall be employed by a Certified Lighting Controls Acceptance Test Employer. The CLCATT shall disclose on the Certificate of Acceptance a valid CLCATT certification identification number issued by an approved Acceptance Test Technician Certification Provider. The CLCATT shall complete all Certificate of Acceptance documentation in accordance with the applicable requirements in Section 10-103(a)4.

NOTE: Authority cited: Sections 25402, 25402.1, 25213, Public Resources Code. Reference: Sections 25007, 25402(a)-(b), 25402.1, 25402.4, 25402.5, 25402.8 and 25910, Public Resources Code.