Report Confirming Industry Certification Thresholds Have Been Met for Lighting Control Acceptance Test Technician Certification Requirements

The 2013 California Building Energy Efficiency Standards ("2013 Code") requires lighting control acceptance tests to be performed by trained and certified Lighting Control Acceptance Test Technicians.[1] In adopting these regulations, the Energy Commission indicated a preference to require certification of lighting control acceptance test technicians as quickly as feasible. In order to expedite this requirement, the Energy Commission pre-approved the California Advanced Lighting Controls Training Program ("CALCTP") as an interim Lighting Control Certification Provider.

The Commission, however, also enacted an "Industry Certification Threshold" to ensure there was sufficient availability of certified Lighting Control Acceptance Test Technicians prior to making the use of certified Technicians mandatory. The Industry Certification Threshold provides that the requirement to use certified Lighting Control Acceptance Test Technicians does not become effective until the Commission determines that at least 300 technicians are certified and a reasonable path for certification is available for the majority of certain specified industry professionals.[2]

As demonstrated by this report, both of these conditions have been satisfied. Accordingly, CALCTP respectfully requests that the Commission issue its determination that the Industry Certification Threshold has been met for certified Lighting Control Acceptance Test Technicians. With such a finding, the Commission will meet its goal of making the use of certified Lighting Control Acceptance Test Technicians mandatory as of the July 1, 2014 effective date of the 2013 Code.

I. BACKGROUND

A. Purpose of Lighting Control Acceptance Test Technician Certification Requirement

Interior and exterior lighting accounts for 35-40% of commercial building electrical load, more than twice the energy used for cooling. Given the large share of California energy usage devoted to commercial lighting, the implementation of advanced lighting controls provides one of the biggest opportunities to reduce electricity use and limit production of greenhouse gases related to global climate change. However, these reductions are only possible if advanced lighting controls are installed correctly so they can achieve their specified optimum energy saving potential.

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[1] Cal. Code Regs., tit. 24, Part 6, § 130.4, subd. (c). The 2013 Code also requires HVAC acceptance tests to be performed by trained and certified Mechanical Acceptance Test Technicians. Cal. Code Regs., tit. 24, Part 6, § 120.5, subd. (b). The Industry Certification Thresholds have not yet been met for Mechanical Acceptance Test Technicians. Accordingly, the Commission is only being asked, at this time, to make a finding regarding the Industry Certification Thresholds for Lighting Control Acceptance Test Technicians.

[2] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (b).

The 2010 Code requires acceptance testing of advanced lighting controls systems in order to ensure that these systems have been installed correctly and perform efficiently. The 2010 Code, however, does not require technicians to have any qualifications, expertise or demonstrated competence in performing these tests and verifying that the systems have been installed and perform as designed.

At a February 27, 2012 CEC workshop on the certification proposal, numerous stakeholders testified that there was no quality control over acceptance tests and that the vast majority of acceptance testing are being performed by persons without sufficient experience, knowledge, training or competence to correctly perform these tests. Furthermore, California Commissioning Collaborative research on acceptance testing enforcement and effectiveness found that code officials, contractors and engineers were not clear on the acceptance testing procedures and form documentation. As a result, incomplete or incorrectly executed acceptance tests and forms are currently the norm rather than the exception. Testimony was provided that training and certification of acceptance test technicians were needed to make the acceptance test requirements meaningful and cost-effective.

The Commission addressed this issue by including Acceptance Test Technician Certification requirements in the 2013 Code. Using Acceptance Test Technicians that have met specific experience, training and certification requirements to perform acceptance testing will significantly reduce the incidence of advanced lighting control products being poorly installed and operating below their specified efficiency. Advanced lighting systems are complex systems that require a unique mix of experience, training and competence to ensure proper performance. Improper installation and inadequate acceptance testing results in sub-standard performance, a high rate of call-backs, and the disabling or removal of advanced lighting control systems by frustrated consumers. Requiring the use of trained and certified Acceptance Test Technicians is consistent with the Commission's goal to achieve maximum energy efficiency and will ensure that actual energy savings and performance are consistent with design and specification standards.

B. General Background of CALCTP Program

CALCTP was established in 2008 in order to increase the number of California state-certified general electricians with the knowledge, skills and abilities necessary to install, program, test, commission and maintain advanced lighting control systems in commercial facilities. CALCTP was developed in cooperation with the California Energy Commission, the California Lighting Technology Center at U.C. Davis, the California Community College Chancellor's Office—Advanced Transportation Technology Energy Campuses, Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric, the Sacramento Municipal Utility District, the National Lighting Manufacturers Association, manufacturers and both union and non-union contractors. CALCTP has certified over 4,000 advanced lighting control installers in California. CALCTP's certification program for Lighting Control Acceptance Test Technicians builds on and incorporates the relevant portions of its certification program for installers.

C. Interim Approval of CALCTP as an Authorized Lighting Control Acceptance Test Technician Provider

In adopting the certification requirements, the Commission pre-approved CALCTP as an interim Lighting Control Acceptance Test Technician Provider authorized to certify Lighting Control Acceptance Test Technicians, subject to CALCTP's submittal of an application for full approval.[3] The intent of interim approval was to ensure that the certification requirement would take effect as soon as possible, without having to wait for the Commission to first finish reviewing and approving a formal application. Under the regulations, the Commission and CALCTP have six months after the effective date of the 2013 Code to work out any substantive concerns with the certification program described in the application. If these concerns are not worked out and the application is not approved within six months, then CALCTP would lose its status as an approved Provider. Other entities may also apply to become an authorized Provider. At the time the 2013 Code was adopted, however, no other entities were identified that were deemed qualified to be pre-approved as an interim Lighting Control Acceptance Test Technician Provider.[4]

CALCTP has submitted a complete application and has been designated as an authorized interim Lighting Control Acceptance Test Technician Provider by the Executive Director, consistent with the regulations adopted by the Commission. Pursuant to this authorization, CALCTP has now trained and certified over 600 Acceptance Test Technicians.

II. INDUSTRY CERTIFICATION THRESHOLD

Title 24, Part 1, § 10-103-A, subsection (b) states that 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:

> (1) No less than 300 Lighting Controls Acceptance Test Technicians have been certified to perform the acceptance tests in Building Energy Efficiency Standards, Section 130.4; and
>
> (2) 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 startup contractors and certified commissioning professionals who have verifiable training, experience and expertise in lighting controls and electrical systems.

As demonstrated by this report, both of these conditions have not only been met, they have been substantially exceeded. CALCTP has certified more than double the required number of Lighting Controls Acceptance Test Technicians and has provided reasonable access to

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[3] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (e).

[4] The Commission also identified three entities that it pre-approved as interim Mechanical Acceptance Test Technician Providers (subject to the submittal of full applications): TABB, NEBB and AABC. Cal. Code Regs., tit. 24, Part 1, § 10-103-B, subd. (e).

certification to electrical contractors, certified general electricians, professional engineers, and certified commissioning professionals.

III. MORE THAN 560 LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIANS HAVE BEEN CERTIFIED TO PERFORM THE ACCEPTANCE TESTS IN BUILDING ENERGY EFFICIENCY STANDARDS, SECTION 130.4

As of April 1, 2014, CALCTP has certified 562 Lighting Controls Acceptance Test Technicians to perform the acceptance tests in Building Energy Efficiency Standards, Section 130.4. Each of these technicians has met the minimum pre-qualification requirements, completed the classroom and hands-on training requirements and passed the certification exam. These 562 certified technicians include electrical contractors, certified general electricians, professional engineers, certified commissioning professionals and lighting control manufacturer representatives.

Attached as Exhibit A is a list of the names and certification identification numbers for each of the certified Lighting Controls Acceptance Test Technicians.

Attached as Exhibit B is a list of the names and certification identification numbers of each of the 57 businesses that are currently certified as Lighting Controls Acceptance Test Technician Employers.

Attached as Exhibit C is a map that demonstrates that the combined service areas of the CALCTP-certified Lighting Controls Acceptance Test Technician Employers covers every single county in California. While the Industry Certification Threshold regulations do not expressly require a showing that Certified Acceptance Test Technicians are available in every California county, CALCTP is pleased to confirm that such coverage currently exists.

IV. REASONABLE ACCESS TO CERTIFICATION IS AVAILABLE TO A MAJORITY OF THE LISTED INDUSTRY GROUPS

Section 10-103-A, subdivision (b)(2) requires a finding that reasonable access to certification is available to the majority of the following five professional industry groups who have verifiable training, experience and expertise in lighting controls and electrical systems: (1) electrical contractors, (2) certified general electricians, (3) professional engineers, (4) controls installation and startup contractors and (5) certified commissioning professionals. CALCTP currently offers certification to four of the five listed professional industry groups and thus provides certification to the majority of these groups.

The only professional category that is not currently provided certification by CALCTP is "controls installation and startup contractors." CALCTP has determined that there is no state contractor license for "controls installation and startup contractors" and there are no certifications, licenses, degrees or standard industry definitions for "controls installation and startup contractors." CALCTP has surveyed National Electrical Manufacturers Association members for a possible standard definition of this group, but has been unable to establish a

consensus definition. Accordingly, approval under this category lacks objective standards and would be arbitrary.

CALCTP has been able to work with lighting control manufacturers to certify their employees under one of the other four professional industry categories. At this date, there have been very few applicants who have not been able to qualify under one of the other four professional industry categories.

In addition, CALCTP will continue to work with the lighting control industry to determine if any meaningful certifications, licenses, degrees or training programs exist that can be uniformly applied to address installation and startup technicians. If industry consensus can be reached, CALCTP will work with industry to propose an amendment to Section 10-103-A, subdivision (b)(2) to replace the term "controls installation and startup contractors" with a more specific and meaningful description.

Evidence that reasonable access is provided to each of the other four professions is demonstrated by the fact that CALCTP has certified technicians representing each of these groups and that each of these groups have the same prerequisite requirements, have the same training and testing requirements, are trained in the same classes and are charged the same fees. In addition, Title 24, Part 1, § 10-103-A, subsection (b)(2) states that the Energy Commission will determine whether reasonable access to certification is provided by considering factors such as: (A) class availability; (B) certification marketing materials; (C) certification costs commensurate with the complexity of the training being provided; (D) prequalification criteria; and (E) curriculum. Those factors are discussed below.

A. Class Availability

CALCTP has certified 63 instructors to conduct classroom and hands on training of CALCTP Acceptance Test Technician Certification applicants. These include instructors at community colleges, joint management/labor training centers, and investor owned utility energy centers.

55 classes for CALCTP Acceptance Test Technician Certification have or will have been conducted by July 1, 2014. 33 classes in Northern California and 22 classes in Southern California. The following is a list of the class locations:

- Cuyamaca College (El Cajon)
- Southern California Edison (Irwindale)
- San Diego Gas and Electric (San Diego)
- Pacific Gas & Electric (San Francisco)
- California Electrical Training Institute (Signal Hill, Pleasanton, and San Diego)
- California Lighting Technology Center (Davis)
- Long Beach City College (Long Beach)
- Cerritos College (Cerritos)
- Alameda JATC (San Leandro)
- San Joaquin JATC (Stockton)

- ETI (Commerce)
- Fresno JATC (Fresno)
- Solano/Napa JATC (Napa)
- Tri-County JATC (Castroville)
- Santa Clara JATC (San Jose)
- NECA/IBEW Contra Costa (Martinez)
- Orange County JATC (Santa Ana)
- Sacramento JATC (Sacramento)
- San Diego JATC (San Diego)
- San Luis Obispo JATC (San Luis Obispo)
- San Mateo JATC (San Carlos)
- Riverside JATC (San Bernardino)
- Santa Barbara JATC (Buellton)
- Ventura JATC (Oxnard)
- Central Valley JATC (Modesto)
- San Francisco JATC (San Francisco)
- Redwood JATC (Santa Rosa)
- Kern County JATC (Bakersfield)
- North Hollywood JATC (North Hollywood)

In addition to the classes already offered or currently scheduled, CALCTP will schedule, at a minimum, four more additional classes (two in Northern California and two in Southern California) during the first year that the 2013 Energy Code is in effect. If there is sufficient demand, additional classes will be offered. With 63 trained instructors in locations throughout the state, CALCTP does not anticipate any difficulties in providing sufficient classes to meet industry demand.

Thereafter, CALCTP anticipates that classes will be offered semiannually at a minimum or as demand requires. CALCTP will accept applications for certification year round.

B. Certification Marketing Materials

In marketing the availability of CALCTP certification, CALCTP made a concerted effort to publicize the program to union and non-union electrical contractors, certified commissioning professionals and professional engineers. In addition, CALCTP has made a concerted marketing effort to ensure a sufficient geographic spread of Certified Lighting Controls Acceptance Test Technicians to ensure coverage in all 58 counties in California.

Attached are samples in Exhibit D of copies of the marketing materials developed and distributed to promote availability of the certification classes.

In addition to providing general notice on CALCTP's website and on the websites of its training partners,[5] CALCTP distributed marketing emails and materials directly to potentially

[5] Samples of websites include: SDG&E, more marketing information is in Exhibit D: https://seminars.sdge.com/iebms/coe/coe_p2_details.aspx?eventid=8725&sessionid=fblfbkfdkff9ejkfh6ff4; CLTC: http://cltc.ucdavis.edu/event/may2014-calctp-technician-training-course; California Electrical Training Institute:

interested industry stakeholders including: the California Commissioning Collaborative, National Electrical Manufacturers Association members, electrical contractors, electricians, Investor Owned Utility stakeholders and lighting controls manufacturers. In each case, CALCTP emailed and conducted follow-up phone calls to ensure that individuals that were interested in becoming certified were made aware of the pre-requisites and upcoming information. CALCTP also established a toll-free call number and an email address to answer questions. CALCTP has also provided numerous training workshops for building officials across California to educate them on these requirements so that they can refer stakeholders interested in certification to the CALCTP website.

C. Certification Costs Commensurate with the Complexity of the Training Provided

Certified CALCTP Lighting Controls Acceptance Test Technicians are subject to four separate fees: (1) Initial Application and Records Maintenance Fee; (2) training fee; (3) quality assurance fee; and (4) Annual Maintenance Fee. Certification costs are below industry averages and have been set in consultation with industry stakeholders. Accordingly, these fees do not create any unreasonable barriers to certification.

Initial Application and Records Maintenance Fee: $225

This fee covers review and verification of application materials, program administration, records maintenance, and the ongoing development of training and testing to reflect updates to the California Energy Code lighting control acceptance test requirements.

Annual Maintenance Fee: $125

Certification is required to be renewed annually. This fee covers program administration, records maintenance, and the ongoing development of training and testing to reflect updates to the California Energy Code lighting control acceptance test requirements.

Training Fee: Varies by Training Center ($0 to $1,500)

The CALCTP-AT Course is offered by independent training centers that may charge a training fee in addition to the application and records maintenance fee that is paid to CALCTP. Training centers vary from joint labor/management training centers to community college centers to Investor Owned Utility training centers. Classes at joint labor/management training centers are generally paid for out of member dues, and thus do not charge any additional fees to member applicants. Many of the classes at community colleges are offered at or below cost due to grants or subsidies. Even without subsidies, the cost of CALCTP certification is very modest. At community colleges, it is the cost of class time at community college tuition rates.

Quality Assurance Fee: $200 per Document Review; $ 400 per Acceptance Test Result Verification

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http://www.californiaelectricaltraining.com/?p=class&m=72; Santa Clara JATC: http://www.ejatc332.org/?zone=/unionactive/private_view_page.cfm&page=CALCTP Redwood JATC: http://www.rejatc.org/

This fee covers the random acceptance test documentation verification and on-site acceptance test verification that is required by the Commission regulations. It is set at the minimum level estimated necessary to make the quality assurance program self-funded.

Based on the program parameters, a small percentage of projects, chosen randomly, will receive either a paperwork "desk" review or an onsite, in-person, quality-assurance review. Each review will be based upon the following fee structure.

State of California Building Code
Title 24 Lighting Controls Quality Assurance Reviews

Type of Review/Audit	Fee Paid to ICF
For Each Quality Assurance Desk Review	$200 per Audit
Per On-Site, In Person Quality Assurance Visit	$400 per Audit

In creating the fee structure, CALCTP did a comparison of similar programs in designing the fee structure which is included in Exhibit E. Because the quality assurance audits are required by Commission regulations and are uniformly applied, they do not create any unreasonable barriers to certification.

D. Prequalification Criteria

California Energy Commission regulations require certified-technician applicants to "have at least three years of verifiable professional experience and expertise in lighting controls and electrical systems sufficient to demonstrate an ability to understand and apply the lighting control acceptance test technician certification requirements."[6] In addition, the California Energy Commission requires certification to be open to the majority of the following industry groups: "electrical contractors, certified general electricians, professional engineers, controls installation and startup contractors and certified commissioning professionals who have verifiable training, experience and expertise in lighting controls and electrical systems."[7]

1. Prequalification Requirements

Consistent with the above regulatory requirements, eligibility is limited to persons who have at least 3 years of verifiable experience in lighting controls and building systems in the following professions:

[6] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (c)(3)(B)(iii).
[7] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (b)(2).

- Certified General Electricians (without CALCTP Installer certification) – must have a current, valid State Certification Number for general electricians that starts with E and ends with G: E + 6-digits + G.

- Electrical Contractors – as defined by individual Candidates who have a valid C-10 electrical contractor license in their name.

- Professional Engineers – as defined by Candidates who have received a bachelor's degree in engineering from an accredited college or university.

- Certified Commissioning Professionals – As defined by Candidates who have received the following certifications:[8]
    - Certified Commissioning Professional offered by the Building Commissioning Association
    - Certified Building Commissioning Professional offered by the Association of Energy Engineers
    - Commissioning Process Management Professional offered by American Society of Heating Air Conditioning Engineers

The CALCTP Board has defined lighting controls experience to include:

- occupancy and photosensors for both indoor and outdoor applications;
- low and line voltage dimming systems;
- demand response control systems, including Energy Management Control System with Demand Response functionality/modules;
- track lighting systems, including current limiting devices; and
- time-based scheduling systems including automatic time switches, programmable lighting control panels, and part-night lighting control devices.

An applicant must submit documentation that he or she has experience in a majority of the above identified areas.

In addition, an applicant has to complete 12 hours of required Lighting Control Association online modules as a pre-requisite to being allowed to take the CALCTP Systems Course and CALCTP Codes and Standards Course. The prerequisite Lighting Controls Association online program is *free of charge* and consists of modules EE101, EE102, EE103, and EE201.[9] Completion of the modules ensures that all candidates have a basic knowledge of the terms and controls that will be used in class. Candidates will not be enrolled into the CALCTP-AT certification course until completion of the online LCA courses.

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[8] To identify these certifications, CALCTP surveyed commissioning professionals in California. These three certifications were identified as the most common and most credible within the industry. The International Accreditation Service ("IAS") just recently published AC 476, a national standard for accrediting building commissioning certification providers. Once this standard is implemented by the commissioning industry, CALCTP expects to amend this definition to include commissioning professionals who have been certified by AC 476-accredited certification organizations.

[9] These courses can be found at: http://www.aboutlightingcontrols.org/Education_Express/accr_orgs.php.

These prequalification criteria are consistent with the Energy Commission regulations and do not create any arbitrary or overly burdensome prequalification requirements for any particular industry group. Each industry group is subject to the same prequalification requirements.

2. Application Review

CALCTP staff, under the supervision and direction of the CALCTP Board, review every application to verify that compliance with minimum eligibility requirements has been met by the applicant and is properly documented. An Application Review Committee reviews any application for which CALCTP administration is unable to determine if the applicant does or does not meet the eligibility requirements. This Committee is made up of three CALCTP-selected subject matter experts who have an understanding of the different types of situations and constraints encountered by practitioners in the field. Reviewers will be noncompetitive industry peers with no financial or other affiliation with applicants. Reviewers are charged to act in a manner that is fair, consistent, objective and justifiable.

If an applicant is deemed ineligible, he or she will be notified and informed of the reason(s) for this finding. If an applicant chooses to appeal the finding of ineligibility, he or she may do so in writing to CALCTP within 30 days of the receipt of notification of ineligibility.

The application review and appeal process further ensure reasonable access is provided to each of the industry groups.

E. Curriculum

The CALCTP Acceptance Test Technician course is divided into three units: (1) Lighting Control Systems and Programs; (2) Lighting Controls Codes and Standards; and (3) Acceptance Test Procedures and Documentation. This course is designed to meet Commission regulatory requirements and to ensure CALCTP Acceptance Test Technicians have the competency to accurately validate that lighting control installations will meet the State's energy efficiency targets.[10]

Lighting Control Systems Unit (10 hours):[11]

This unit focuses on the functions and set up of lighting controls systems and programs and their interrelationship with the building environment. The Lighting Control Systems course consists of lectures, lab activities and a written exam. In addition, the 10 hour unit includes approximately 4 hours of lab activities covering basic controls and programming concepts.

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[10] See Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (c)(3)(B) (setting forth curriculum requirements).

[11] Applicants who are certified as CALCTP Lighting Control Installers have already taken the Lighting Control Systems Unit as part of their Installer certification training. Because CALCTP-certified Installers have already completed this unit, they are not required to repeat it as part of their Acceptance Test Technician certification training.

Program Introduction
The program introduction describes CALCTP and the reasons behind its formation, relevance and need. Content includes a general introduction to codes, standards, and design practices governing installation of lighting and lighting controls.

Module 1: Lighting Systems Overview
Lighting Systems Overview provides a high-level introduction to the light sources, controls components and control strategies utilized in the commercial sector.

Module 2: Line Voltage Switching Controls
Module 2 is designed to teach class participants to correctly identify and select line voltage switching devices typically employed as part of a commercial lighting system including wallbox, cabinet and emergency switching devices.

Module 3: Low Voltage Switching Controls
Module 3 is designed to teach class participants to correctly identify and select low voltage switching controls typically employed as part of a commercial lighting system. Low voltage control devices and components include transformers, relays, relay panels, and switches.

Module 4: Dimming Controls
Module 4 is designed to teach class participants to correctly identify and select dimming control devices typically employed as part of a commercial lighting system.

Module 5: Occupancy Controls
Module 5 is designed to teach class participants to correctly identify and select occupancy control devices typically employed as part of a commercial lighting system.

Module 6: Photosensors
Module 6 is designed to teach class participants to correctly identify and select photosensors to control electric lighting systems, as part of a daylighting design strategy for commercial buildings.

Module 7: Emerging and Alternative Lighting Control Concepts
This module is designed to incorporate emerging and alternative trends in commercial lighting controls.

Codes and Standards Unit (4 hours):[12]

This unit covers the purposes of California energy codes, review of California legislation affecting the lighting industry, as well as an overview of California's indoor and outdoor lighting requirements. The course also covers regulations on what types of testing need additional training for acceptance test technicians.

[12] Applicants who are certified as CALCTP Lighting Control Installers have already taken the Codes and Standards Unit as part of their Installer certification training. Because CALCTP-certified Installers have already completed this unit, they are not required to repeat it as part of their Acceptance Test Technician certification training.

Acceptance Test Procedures and Documentation Unit (16 hours):

This unit consists of four modules consisting of both lab and lecture activities. The modules cover seven fundamental questions about lighting control acceptance tests. 1) What is in the energy code? 2) What are the test technician responsibilities? 3) What are the employer's responsibilities? 4) What are acceptance test processes? 5) What are acceptance test procedures for indoor lighting? 6) What are acceptance testing procedures for outdoor lighting? 7) What is needed for compliance documentation?

Lab Completion Requirements:
CALCTP includes lab activities that must be validated by the instructor prior to taking the final written exam. CALCTP requires all participants to complete each laboratory module with 100% (Pass/Fail) competency in lab exercises to move to the next laboratory module.

Final Examination:
The final examination consists of 60 equally weighted multiple-choice questions, with four choices per question; 50 of the questions are scored and 10 are unscored pilot questions. The pilot questions are randomly distributed throughout the examination and are not identified. All questions will be extensively reviewed prior to use and will receive additional regular evaluation for unforeseen bias during the course of their use in the exam. The final exam requires a 75% pass rate.

General Topic Areas of Acceptance Test Procedures and Documentation Test Questions:
Test questions relate to a job task analysis created by experts and cover the following topics:

- Lamp and ballast systems
- Line voltage switching controls
- Low voltage switching controls
- Dimming controls
- Occupancy sensors
- Photosensors
- Demand responsive signal inputs to lighting control systems
- Building Energy Efficiency Standards required lighting control systems
- Building Energy Efficiency Standards required lighting control system-specific analytical/problem solving skills
- Integration of mechanical and electrical systems for Building Energy Efficiency Standards required lighting control installation and commissioning
- Safety procedures for low-voltage retrofits (<50 volts) to control line voltage systems (120 to 480 volts)
- Accurate and effective tuning, calibration, and programming of Building Energy Efficiency Standards required lighting control system
- Measurement of illuminance according to the Illuminating Engineering Society's measurement procedures as provided in the IESNA Lighting Handbook, 10th Edition, 2011, which are incorporated by reference

- Building Energy Efficiency Standards lighting controls acceptance testing procedures

The above curriculum is consistent with the Energy Commission regulations and does not create any arbitrary or overly burdensome training requirements for any particular industry group. Consistent with the regulations, the curriculum provides acceptance test technicians with both theoretical classroom training and hands-on practical training in order to ensure they are able to apply 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.[13] The curriculum also meets the requirement that it provide certified acceptance test technicians with training in the "analysis, theory and practical application" of the identified lighting control topics.[14] Furthermore, each industry group is trained to the exact same curriculum and thus is provided reasonable access to certification.

V. CONCLUSION

In order to ensure that Title 24 requirements for reducing the energy demand of commercial lighting systems will result in actual real world energy savings, it is critical that acceptance testing and documentation of advanced lighting systems be performed accurately and completely. Without certification of acceptance test technicians, there is no assurance that the cost of complying with Title 24 energy saving requirements will actually result in expected energy savings.

CALCTP, California electrical contractors and the lighting control industry have invested substantial money, time and resources to ensure these Industry Certification Threshold requirements have been met in time to coincide with the implementation date for the 2013 Energy Code. Their return on this investment has already been delayed due to the six month delay in the 2013 implementation date, so it is crucial to these stakeholders that the Lighting Control Acceptance Test Technician certification requirement becomes mandatory on July 1, 2014 at the same time as the rest of the 2013 Energy Code.

As this report documents, the Section 10-103-A, subsection (b) industry certification threshold requirements have not only been met, but have been greatly exceeded. Not only is reasonable access to certification available to a majority of the listed industry groups, CALCTP has, in fact, actually certified representative from all of the listed industry groups. Certification requirements and costs are the same, regardless of industry group. In addition, certification is completely open shop. Certification is open to, and has been provided to, both union and non-union applicants. Certification costs are below industry averages and have been set in consultation with industry stakeholders.

Furthermore, more than double the number of technicians required to trigger the mandatory use of certified lighting control technicians have been certified. The certification of over 600 technicians, in itself, demonstrates that reasonable access to certification exists. This

[13] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (c)(3)(A).
[14] Cal. Code Regs., tit. 24, Part 1, § 10-103-A, subd. (c)(3)(B).

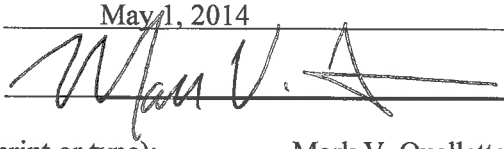
greatly exceeds the number estimated necessary to fulfill the expected demand for certified lighting control acceptance test technicians.

CALCTP respectfully requests that the Energy Commission issue a finding that the Industry Certification Thresholds set forth in Section 10-103-A, subsection (b), have been fulfilled.

CERTIFICATION

I certify under penalty of perjury that the information contained in this *Report Confirming Industry Certification Thresholds Have Been Met for Lighting Control Acceptance Test Technician Certification Requirements* is true, correct, and complete to the best of my knowledge and that I am authorized to make this Report on behalf of CALCTP.

Dated: May 1, 2014

Signed: 

Name (print or type): Mark V. Ouellette

Title: (print or type) Senior Program Manager, ICF International

Representing: California Advanced Lighting Controls Training Program (CALCTP)

Appendix – CALCTP-AT Technicians

Name	Cert Number
Kathleen Barber	TC-A813001
Paul Bussell	TC-A813002
Temistocles Caal	TC-A813003
Geoffrey Gatt	TC-A813004
Michael Scalzo	TC-A813005
Stephen Slovacek	TC-A813006
Jason McCord	TC-A813007
James Stark	TC-A813008
Rubio Rubio	TC-A813009
Alberto DeSanto	TC-A813010
Lloyd Diehl	TC-A813011
Michael Smith	TC-A813012
Ed Stark	TC-A813013
Michael Goodwin	TC-A813014
Jeff Gatlin	TC-A813015
Garrett Rowe	TC-A813016
Patrick Gorham	TC-A813017
Douglas Woodruff	TC-A813018
Brendan Cokeley	TC-A813019
Gary Pintor	TC-A813020
Barry White	TC-A813021
Donald Hay	TC-A813022
Daniel Forren	TC-A813023
Mike Nolan	TC-A813024

Name	Cert Number
David Hoover	TC-A813025
Richard DesLauriers	TC-A813026
Bruce Gourley	TC-A813027
Basil Goodrich	TC-A813028
Dwayne Holder	TC-A813029
Enrique Lorenzo	TC-A813030
Gregg Naveja	TC-A813031
Ossiel Sandoval	TC-A813032
Harry Stallmach	TC-A813033
Bernardo Torres	TC-A813034
Steven Yamasaki	TC-A813035
Mladen Zagar	TC-A813036
Anthony Ferguson	TC-A813037
Scot Hemingway	TC-A813038
Tom Forbes	TC-A813039
Mike Starr	TC-A813040
Francisco Deleon	TC-A813041
James Murphy	TC-A813042
Gregory Zickovich	TC-A813043
John Valverde	TC-A813044
Patrick Swain	TC-A813045
John Schmidt	TC-A813046
Ricardo Martinez	TC-A813047
Gary Leder	TC-A813048
Wilfred Hernandez	TC-A813049
John Ferraro	TC-A813050

Name	Cert Number
Robert Walls	TC-A813051
Richard Whaley	TC-A813052
James Rosales	TC-A813053
David Clark	TC-A813054
Stephen Sweazy	TC-A813055
Brian McKay	TC-A813056
Wayne Frank	TC-A813057
Jeffrey Dohan	TC-A813058
David Hickok	TC-A813059
Daniel Holt	TC-A813060
Alan Homutoff	TC-A813061
Vu Huynh	TC-A813062
Barry Nerhus	TC-A813063
John Nonenmacher	TC-A813064
Richard Sanderson	TC-A813065
Jason Slinger	TC-A813066
David Stotler	TC-A813067
Dean Taylor	TC-A813068
Erik Terrebone	TC-A813069
Cody Trusdall	TC-A813070
Charles Viviani	TC-A813071
Steven Brown	TC-A813072
James Callahan	TC-A813073
Ruben Gomes	TC-A813074
Annette Mennel	TC-A813075
Nathan Parker	TC-A813076

Name	Cert Number
James Philbrook	TC-A813077
Richard Rounseville	TC-A813078
Crisosten (sam) Sandoval	TC-A813079
Brian Scanlon	TC-A813080
Christine Sigel	TC-A813081
James Smith	TC-A813082
Kenneth Jadeson	TC-A813083
Nicholas McDaid	TC-A813084
Mark Tabbert	TC-A813085
Dale Chryst	TC-A813086
Joseph Buhowsky	TC-A813087
Don K Dixon Sr.	TC-A813088
Francisco Garcia	TC-A813089
Chris Doyle	TC-A813090
Brandon M Osby	TC-A813091
Kenneth J Irwin	TC-A813092
Robertson G Ray	TC-A813093
Thai Q Huynh	TC-A813094
Carol Larson	TC-A813095
Jeremiah Nieman	TC-A813096
Jimmy P Borreani	TC-A813097
Joshua T Kaneko	TC-A813098
Marguerite Lethridge	TC-A813099
Greg C Neidiger	TC-A813100
Terry Padilla	TC-A813101
Patrick D Quinn	TC-A813102

Name	Cert Number
Alan K Self	TC-A813103
Darin C Self	TC-A813104
Mario Oropeza	TC-A813105
Richard Reilly	TC-A813106
Andrew Wong	TC-A813107
Nathan Lotspeich	TC-A813108
Randy Williamson	TC-A813109
Eric Benson	TC-A813110
Jorge Perez	TC-A813111
Scott Cline	TC-A813112
Christopher Lessier	TC-A813113
Edgar Alcantara	TC-A813114
Rene Amable-olague	TC-A813115
George Ford	TC-A813116
Dean Oliver	TC-A813117
Tim Saunders	TC-A813118
Merrit Mann	TC-A813119
Joseph Savino	TC-A813120
John McDonagh	TC-A813121
Rory McCarthy	TC-A813122
Dave Thoni	TC-A813123
Tyler Lazarian	TC-A813124
Michael Colvin	TC-A813125
Daren Giles	TC-A813126
Eric Maglasang	TC-A813127
Jeffrey Mosher	TC-A813128

Name	Cert Number
Paul Lord	TC-A813129
Chuck Andermann	TC-A813130
Bruce Bailey	TC-A813131
David Bryan	TC-A813132
Nick Gutierrez	TC-A813133
Paul Houseworth	TC-A813134
Joseph McVey	TC-A813135
Alexander Stewart	TC-A813136
Matthew Vereschagin	TC-A813137
Gregory Perez	TC-A813138
Bryan Wilfong	TC-A813139
Trevor Bissonnette	TC-A813140
John Lupton II	TC-A813141
Daniel Palen	TC-A813142
Christopher Bowden	TC-A813143
Mark Bowden	TC-A813144
Jeffrey Dunn	TC-A813145
Joshua House	TC-A813146
Brian McLain	TC-A813147
Billy Powell	TC-A813148
Allen Avalso	TC-A813149
Brian Dow	TC-A813150
Joel Gruenhagen	TC-A813151
Antonio Maldonado	TC-A813152
Matthew Paine	TC-A813153
Tony Rios	TC-A813154

Name	Cert Number
William Rodabaugh	TC-A813155
Antonio Samaniego	TC-A813156
Harbhajan Singh	TC-A813157
Joseph Hutchinson	TC-A813158
Toby Mitchell	TC-A813159
Brad Shetley	TC-A813160
Thomas Drexhage	TC-A813161
Timothy Friend	TC-A813162
Jack Haley	TC-A813163
Steven Hart	TC-A813164
Brandon Kolaczyk	TC-A813165
Daniel Miller	TC-A813166
Kevin Ornelas	TC-A813167
Rory Reynolds	TC-A813168
Evan Woeste	TC-A813169
Alonso Sabas	TC-A813170
Lisa Barber	TC-A813171
Michael Benson	TC-A813172
Thomas Brawley	TC-A813173
Juan Dena	TC-A813174
Alan Hauser	TC-A813175
Mark Hawkins	TC-A813176
Angel Morales	TC-A813177
Joseph Paul	TC-A813178
Ali Sadeghi	TC-A813179
Joseph Enriquez	TC-A813180

Name	Cert Number
Eduardo Sencion	TC-A813181
Christophe Thelia	TC-A813182
Christian Tomren	TC-A813183
James Wilson	TC-A813184
Kristofer Youngstrom	TC-A813185
Allen Randall	TC-A813186
Timothy Baird	TC-A813187
William Barton, Jr.	TC-A813188
Vincent Blaschak	TC-A813189
Joe Castaneda	TC-A813190
Shane Clark	TC-A813191
Christopher Eastman	TC-A813192
Nelson Fonte	TC-A813193
Anthony Knutson	TC-A813194
Ryan Kristensen	TC-A813195
John O'Neill	TC-A813196
Patrick Runion	TC-A813197
Christopher Salorio	TC-A813198
Graham Trimper	TC-A813199
Matthew Vining	TC-A813200
Frederick Young	TC-A813201
Chris Rafferty	TC-A813202
Michael Desrosiers	TC-A813203
Khanh Pham	TC-A813204
Merle Chick	TC-A813205
Gary Rathbun	TC-A813206

Name	Cert Number
Chris Appelt	TC-A813207
Todd LaRue	TC-A813208
Scott Stoner	TC-A813209
Zinovy Gutman	TC-A813210
Francisco Vega	TC-A813211
Michael Baxter	TC-A813212
Philip Hall	TC-A813213
Vincent Calabrese	TC-A813214
Ralph Diaz	TC-A813215
Eric Elkins	TC-A813216
Charles Freeman	TC-A813217
Kevin Miller	TC-A813218
Jesse Moore	TC-A813219
Ryan Muzinich	TC-A813220
Michael Parmenter	TC-A813221
David Piercy	TC-A813222
Carlos Samaniego	TC-A813223
Ryan Serene	TC-A813224
Jon-Paul Wolfe	TC-A813225
Jonathan Barretta	TC-A813226
Scotty Allen	TC-A813227
Armando Arellano	TC-A813228
Mike Dolan	TC-A813229
Daniel Eakin	TC-A813230
Jonathen Gonzalez	TC-A813231
Timothy Lynch	TC-A813232

Name	Cert Number
Burleigh Maples	TC-A813233
Michael Perez	TC-A813234
Ramon Regoso	TC-A813235
Heather Rohn	TC-A813236
Tom Stephenson	TC-A813237
Glenn Wallis	TC-A813238
Brian Adams	TC-A813239
Robert Ackerman	TC-A813240
John Colfer	TC-A813241
Kenneth Comer	TC-A813242
Jeffrey Hall	TC-A813243
Thomas Heisdorf	TC-A813244
Nathan Hickinbotham	TC-A813245
Connie Johnson	TC-A813246
John Mulligan	TC-A813247
Jason Appleton	TC-A813248
Eduard Chiara	TC-A813249
Joseph Gillard	TC-A813250
Benjamin Gonzalez	TC-A813251
Matthew Hlatky	TC-A813252
Hung Lam	TC-A813253
Matt Tampas	TC-A813254
Patrick Carroll	TC-A813255
David Christensen	TC-A813256
Barbara Dees	TC-A813257
Johah Gabriel	TC-A813258

Name	Cert Number
James Peterson	TC-A813259
Douglas Phillips	TC-A813260
Leland Rogers	TC-A813261
Collin Weiner	TC-A813262
Mariano Yenko	TC-A813263
Richard Zemlok	TC-A813264
James Gotelli	TC-A813265
Ceferino Alvarez	TC-A813266
Gaetano D'Amato	TC-A813267
Brendan Greene	TC-A813268
Paul Krivda	TC-A813269
Stephen Murray	TC-A813270
Judith Ryan	TC-A813271
Robert Wedge	TC-A813272
Christopher Cicero	TC-A813273
Troy Dann	TC-A813274
Julio Ferraro	TC-A813275
Christopher Ravanal	TC-A813276
Jeremy Arnold	TC-A813277
Alfredo Calderon	TC-A813278
Andrew Carbone	TC-A813279
Kenneth Dewes	TC-A813280
Gene Diamond	TC-A813281
Marcus Dorsey	TC-A813282
Trevor Ferraz	TC-A813283
Timothy Jones	TC-A813284

Name	Cert Number
Erik Lopez	TC-A813285
Seth Manter	TC-A813286
Michael Marindale	TC-A813287
Michael Masters	TC-A813288
Michael Poort	TC-A813289
Dan Scranton	TC-A813290
Zachary Stagner	TC-A813291
Chirs Steurer	TC-A813292
John Williams	TC-A813293
Hugo Jaquez	TC-A813295
Richard Lee Miller	TC-A813296
Sean Watson	TC-A813297
Mark Carr	TC-A813298
Samuel Fillmore	TC-A813299
Jon Hanvey	TC-A813300
Tom James	TC-A813301
Wayne Klingenhofer	TC-A813302
Dane Lay	TC-A813303
Toby Lee	TC-A813304
Jack McCoy	TC-A813305
Derek McGaughy	TC-A813306
Lee William Miller	TC-A813307
Edward Olmos	TC-A813308
Jesse Purczynski	TC-A813309
Diego Trejo	TC-A813310
Rick Batterton	TC-A813311

Name	Cert Number
Clint Castle	TC-A813312
George Cuario	TC-A813313
Carl Jenks	TC-A813314
Bing Louie	TC-A813315
Den Prom	TC-A813316
Mark Stoakes	TC-A813317
Guy Lawson	TC-A813318
Larry Nelson	TC-A813319
Brian McDonald	TC-A813320
Derrick Scott	TC-A813321
Kevin Crane	TC-A813322
Todd Ellis	TC-A813322
Kyle Ensminger	TC-A813324
Timothy Gallashaw	TC-A813325
Gregory Graham	TC-A813326
Rick Hamilton	TC-A813327
Marcus Lygerger	TC-A813328
Hilario Martinez	TC-A813329
Michael Perdue	TC-A813330
Jeff Tumbaga	TC-A813331
Eric Vroege	TC-A813332
Stephen Hernandez	TC-A813333
Sean Patt	TC-A813334
Trevor Smith	TC-A813335
Patrick Cottrell	TC-A813336
Ray Hoff	TC-A813338

Name	Cert Number
Brandon Powell	TC-A813339
Ed Murphy	TC-A813340
Alberto Salcido	TC-A813341
Spyros Papas	TC-A813342
Roger Cheatham	TC-A813343
Philip Gadon	TC-A813344
Rockie Ginter	TC-A813345
Theodore Hernandez	TC-A813346
William Lynch	TC-A813347
David Morearty	TC-A813348
Jason Simmons	TC-A813349
Metin Taner	TC-A813350
Gregory Veatch	TC-A813351
Leland Williams	TC-A813352
Brett Browne	TC-A813353
Justin Cortinas	TC-A813354
Gregg Lutack	TC-A813355
Jon McRae	TC-A813356
Lawrence Miller	TC-A813357
Brian Morales	TC-A813358
Ali Asghar Rostami	TC-A813359
Chris Laird	TC-A813360
David Lock	TC-A813361
Trent Stouvenel	TC-A813362
Michael Ball	TC-A813363
Joseph Cirigliano	TC-A813364

Name	Cert Number
Michael Kaspar	TC-A813365
James Hoffman	TC-A813366
Michael Stiteler	TC-A813367
Daniel Grace	TC-A813368
Patrick Harder	TC-A813369
Forrest Jang	TC-A813370
Daniel Kirchner	TC-A813371
Reuben Pickering	TC-A813372
Steven Stobel	TC-A813373
Ronald Bennett	TC-A813374
Jerry Brooks	TC-A813375
Raymundo Camacho II	TC-A812376
Chris Cossey	TC-A813377
Randal Dale	TC-A813378
Marilyn Ferguson	TC-A813379
Jennifer Larson	TC-A813380
Kimberlee Larson	TC-A813381
Crystal Lavering	TC-A813382
Robert Lilley	TC-A813383
Robert Moynihan Jr.	TC-A813384
Matthew Ngim	TC-A813385
Robert Patterson	TC-A813386
Bryan Pridmore	TC-A813387
Mark Ramsey	TC-A813388
Roy Sanders	TC-A813389
Rachel Shoemake	TC-A813390

Name	Cert Number
Carol Yee	TC-A813391
Michael Muscarella	TC-A813392
Michael Lewis	TC-A813393
Carey Hummel	TC-A813394
Norman McElhaney	TC-A813395
Mario Solis	TC-A813396
Kenneth Apple	TC-A813397
Paul Avery	TC-A813398
Tory Blair	TC-A813399
David Bryce	TC-A813400
Scott Carle	TC-A813401
Genaro Carpio	TC-A813402
Mark Cosentino	TC-A813403
Steven Cummings	TC-A813404
Keith Dougherty	TC-A813405
David Egli	TC-A813406
Roger Grabill	TC-A813407
Jay Groh	TC-A813408
Sabahudin Hodzic	TC-A813409
Ronald Howie	TC-A813410
Rhonda Hughes	TC-A813411
Peter Icaza	TC-A813412
John Kauer	TC-A813413
Steve Kazezski	TC-A813414
Edward Keplinger	TC-A813415
Juan Moran	TC-A813416

Name	Cert Number
Joshua Munoz	TC-A813417
Walter Peper	TC-A813418
Bolivar Pineda	TC-A813419
Gavin Powers	TC-A813420
John Shean	TC-A813421
Ricky Walker	TC-A813422
John Washington	TC-A813423
Paul Zele	TC-A813424
Phillip Sheckler	TC-A813425
Timothy Brindley	TC-A813426
Richard Lindeman	TC-A813427
John Lopez	TC-A813428
John Miller	TC-A813429
Eamonn O'Halloran	TC-A813430
Bradley Howard	TC-A813431
Christopher Denisi	TC-A813432
Jeremy Roos	TC-A813433
Christopher Sweeney	TC-A813434
Bryan Upcraft	TC-A813435
Mike Zinniker	TC-A813436
William Finkel	TC-A813437
Ruben Ayala	TC-A813438
Chris Lane	TC-A813439
Matt Oakes	TC-A813440
James Weigel	TC-A813441
Gregorio Barrientes	TC-A813442

Name	Cert Number
Dennis Chacon	TC-A813443
Guillermo Corona III	TC-A813444
Alan Emerson	TC-A813445
Joseph Hopper	TC-A813446
Mark Klasa	TC-A813447
Daniel Luther	TC-A813448
Roy Madrid	TC-A813449
William Pearcy	TC-A813450
Peter Sterbenz	TC-A813451
Patrick Conaty	TC-A813452
Ryan Devine	TC-A813453
Andrew Paganini	TC-A813454
James O'Sullivan	TC-A813455
Stuart Stenros	TC-A813456
Paul Wong	TC-A813457
Francisco Romero	TC-A813458
Paul Menicucci	TC-A813459
Daniel Mueller	TC-A813460
Adam Cullers	TC-A813461
Anthony Davis	TC-A813462
David Martinez	TC-A813463
Jose Moncada	TC-A813464
Albert Randall	TC-A813465
Steven Trybom	TC-A813466
Carlos Vargas	TC-A813467
Daniel Walford	TC-A813468

Name	Cert Number
Scott Benefield	TC-A813469
David Bartleson	TC-A813470
David DeKruyf	TC-A813471
Edwin Dubon	TC-A813472
James Francis	TC-A813473
Sheldon Hotarek	TC-A813474
Charles Kelly	TC-A813475
Jose Macias	TC-A813476
John Martin	TC-A813477
Marius Merean	TC-A813478
Richard Mojica	TC-A813479
Erik Moreno	TC-A813480
Robert Roll	TC-A813481
Mannygreg Turalva	TC-A813482
Danny Vega	TC-A813483
Bruno Araiza	TC-A813484
Norman Bacher	TC-A813485
Virginia Wilken	TC-A813486
Richard Myhre	TC-A813487
James Hansmeier	TC-A813488
Jonathan Paola	TC-A813489
Ivan Richey	TC-A813490
John Sveiven	TC-A813491
William Bowen	TC-A813492
Frank Chapman	TC-A813493
Liviu Moscu	TC-A813494

Name	Cert Number
Ernesto Campiz	TC-A813495
Armando Chavez	TC-A813496
Herbert Cortez	TC-A813497
Bert Deaton	TC-A813498
Larry Ferris	TC-A813499
Louie Garcia	TC-A813500
Lance Green	TC-A813501
Timothy Harrington	TC-A813502
Duy Nguyen	TC-A813503
Dean Reid	TC-A813504
Robert Ruby	TC-A813505
Richard Sakaniwa	TC-A813506
Gregory Snyder	TC-A813507
Doug Tupper	TC-A813508
Brian Fletcher	TC-A813509
Stephen Honea	TC-A813510
Maurice Ernst	TC-A813511
Carlos Estrada	TC-A813512
Anthony Fajardo	TC-A813513
Mynor Fonseca	TC-A813514
Matthew Foster	TC-A813515
Rolando Fraga	TC-A813516
Carlos Garcia	TC-A813517
Glen Kerr	TC-A813518
Alfrin Leggins	TC-A813519
Steve Richardson	TC-A813520

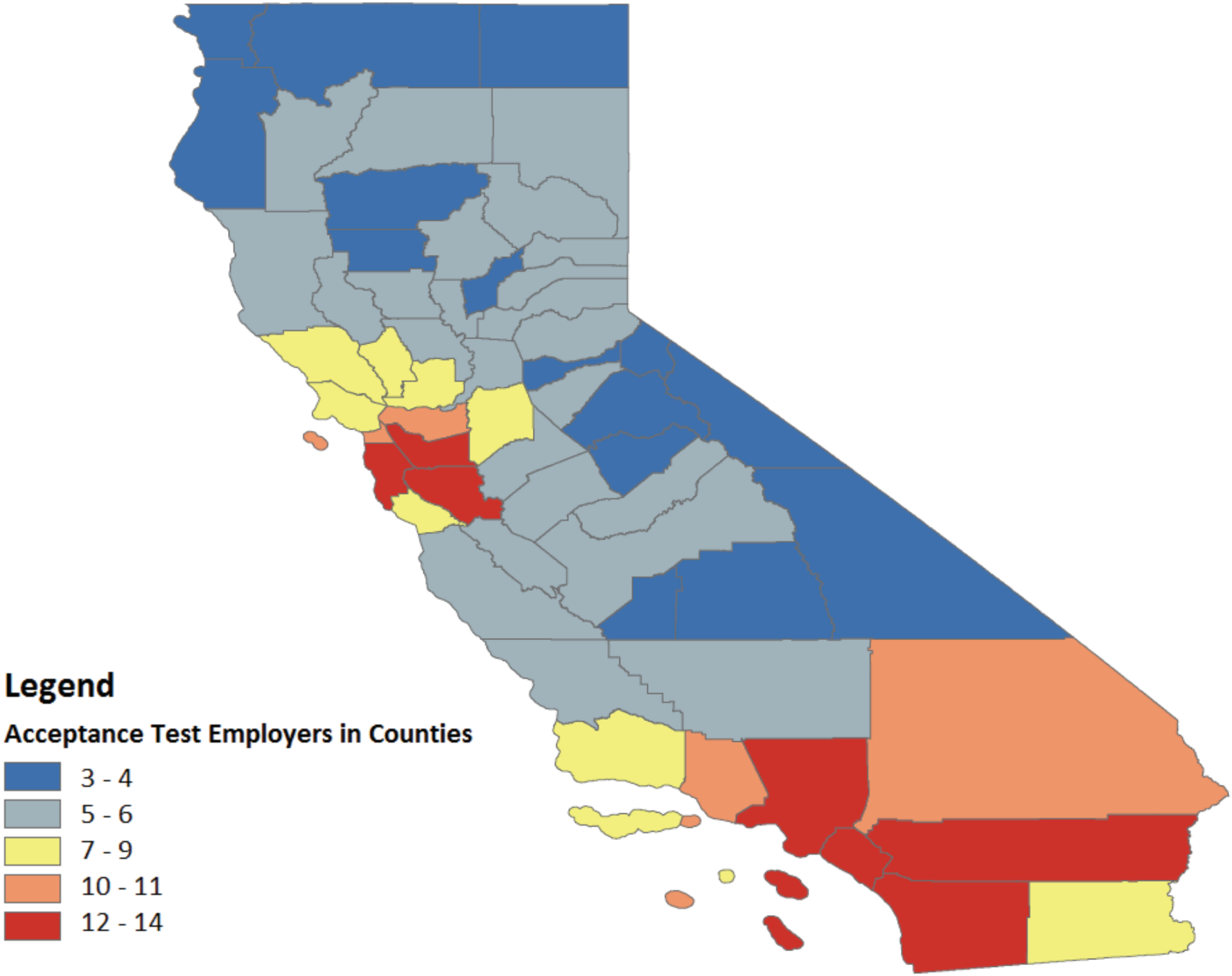
Name	Cert Number
Niecho Solorzano	TC-A813521
James Vega	TC-A813522
Craig Wilkerson	TC-A813523
Maria Palacios	TC-A813524
Enrique Velazquez	TC-A813525
Juan Fang	TC-A813526
Narcis Flutur	TC-A813527
Jorge Lara	TC-A813528
Joseph Cochran	TC-A813529
Wenceslo Garro	TC-A813530
Lyn Gomes	TC-A813531
John Dees	TC-A813532
Richard Haring	TC-A813533
Iam Harrington	TC-A813534
Kyle Jensen	TC-A813535
Lawrence Lamontagne	TC-A813536
Albert McBride	TC-A813537
Charles Perkins	TC-A813538
Roger Phillips	TC-A813539
Mark Spahn	TC-A813540
Jack Waldvogel	TC-A813541
Rick Weber	TC-A813542
Derek West	TC-A813543
William Stapelberg	TC-A813544
Anthony Garcia	TC-A813545
Christopher Craig	TC-A813546

Name	Cert Number
Ronald Heimbuecher	TC-A813547
Ronnie Lynds	TC-A813548
Kevin Eubanks	TC-A813549
Frank Almond	TC-A813550
Christopher Chapman	TC-A813551
Andrew Horrell	TC-A813552
Casey Jones	TC-A813553
Kannon Kobleur	TC-A813554
Maxwell Lablaiks	TC-A813555
Aaron Massella	TC-A813556
Michael McCormick	TC-A813557
Jeremiah Montano	TC-A813558
Cliff Nathanson	TC-A813559
Daniel Richardson	TC-A813560
Diana Towne	TC-A813561
Jason Wise	TC-A813562

Appendix – CALCTP-AT Certified Employers

Certified AT Employers as of 4/17/14
21st Century Electrics
ADEC, Inc
Advance Lighting and Electric - Torres
Advanced Lighting and Electrical, Inc
AMS Electric
Anderson and Howard
Apollo Electric
Atlas-Pellizzari Electric
BAS Installations, Inc.
Briggs Electric
CAAL Electric
Cartier Electrical Technologies, Inc
Classic Electric
Collins Electrical Company
Crest Utilities Inc dba Crest Electric
CRI Electric
Cupertino Electric Inc.
Decker Electric
Del Monte Electric
DRE Power and Cabling Contractors
Elcor Electric
Executive Lighting and Electric
Faith Com, Inc. dba/FCI Management Consultants
Gilbert and Stearns
Hangtown Electric, Inc.
Hollywood Electricians
Intermountain Elecric
Jakez Electric
Jamar Power System
JENSCO, Inc. dba J M Electric
K&B Electric inc
K.F. Howell Electric, Inc.
MB Herzog
McClure Electric, Inc
N2 Electric, Inc
O'Bryant Electric
On Target

Certified AT Employers as of 4/17/14
Paganini
Palmer Electric
Positive Energy
ProAutomated, Inc
R&R Controls
RLI Electric
ROOS Industires, dba ROOS Electric, Inc.
SASCO
Silver Creek Construction dba Silver Creek Electric
Southern Contracting
Sparky's Electric
Teletron Industries
The Brindley Corporation, dba Brindley Electrical Services
The Engineering Enterprise (Shalley-Dibble, Inc)
Unison Electric
WECO Electrical Engineering
Westech Systems, Inc


Legend
Acceptance Test Employers in Counties
3 - 4
5 - 6
7 - 9
10 - 11
12 - 14

CALCTP-AT Certified Acceptance Technician

GET CERTIFIED!

Training for Lighting Controls Acceptance Test Technicians

February 3–7, 2013 · Davis and Sacramento

WHO SHOULD REGISTER?

This course is designed for lighting professionals from commissioning and engineering firms, electrical contractors, and general electricians who are not certified CALCTP Installers.

HOW DO I APPLY?

Visit **CALCTP.org** to submit a CALCTP-AT Technician application, and submit payment online or by mail.

COST: $500

The course fee includes materials, lab fees, and record keeping. Credit card payments may be submitted online. Checks are also accepted.

COURSE LOCATION:

California Lighting
Technology Center (CLTC)
633 Pena Drive
Davis, CA 95618

RESCHEDULED—To better accomodate busy schedules during this time of year, the CALCTP-AT Technician Training course bas been rescheduled. We will be taking this opportunity to include more resources into the curriculum for the February course.

California's new Title 24 standards will require that certain lighting control devices be certified as properly installed and operational before occupancy permits are issued. The new standards also require that this verification process be performed by a trained and certified lighting controls acceptance test technician.

The California Advanced Lighting Controls Training Program (CALCTP) certifies acceptance test technicians and technician employers. CALCTP has designed this intensive, interactive one-week course for applicants who are: professional engineers, certified commissioning professionals, licensed electrical contractors, or general electricians who are not certified CALCTP Installers

Participants will have the opportunity to share their recommendations and feedback, and they will come away with the training and tools they will need to successfully conduct and document acceptance tests required by the 2013 Title 24 standards

Mon, 2/03: CALCTP Systems Course, 8:30am–5pm at CLTC

Tue, 2/04: AT Part I, 8:30am–12:30pm at CLTC

Wed, 2/05: AT Part II, 8:30am–5pm at CLTC

Thu, 2/06: AT Lab (choose one of two sessions) at Sac JATC

Fri, 2/07: AT Certification Exam, 1:30pm–4:30pm at CLTC

Questions? Call 1-877-670-7910
www.calctp.org/acceptance-technicians

Ouellette, Mark

From: San Diego Gas & Electric <webmaster@sdge.messages3.com>
Sent: Friday, April 18, 2014 8:01 AM
To: Ouellette, Mark
Subject: Become a certified CALCTP contractor

This message contains graphics. If you do not see the graphics, click here to view.

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SDGE connected
A Sempra Energy utility

Title 24 Lighting Acceptance Test

4-Hour Certification Course

Become a certified CALCTP contractor

This 4-hour certification course is for electrical contractors and their employees. The course will review the amended Title 24 standards for non-residential acceptance testing, and will provide an overview of the requirements, training, and applications required under these new standards. You must have an approved application form obtained from the CALCTP-AT website to attend this seminar.

Register Today »

Course highlights

- Understand the purpose and scope of Title 24 installation and acceptance testing requirements
- Learn about the roles and responsibilities of acceptance test technicians and their employers
- Review the applicable codes and standards for commercial buildings
- Understand the certification and permitting process

- Examine the project type and lighting controls that are regulated
- Explore compliance documentation and forms

Please note that your completed exam is sent to CALCTP for scoring and results are not available at the Energy Innovation Center.

Speaker

Paul Bussell is a certified CALCTP Trainer, former lighting instructor at DISD and FIDM-Los Angeles, and presents seminars for Cuyumaca College Auxilliary, Mesa College, SDG&E, & the USGBC. Paul also develops on-line and site training offerings for the knowledge company LumenCulture.

Tuesday, May 6

(Seminar #8725)
Register

Time:

8 a.m. - 12 p.m.
(7:30 a.m. check-in and continental breakfast provided)

Location:

Energy Innovation Center
4760 Clairemont Mesa Blvd
San Diego, CA 92117
View map

It's easy to register:

Online: seminars.sdge.com
Email: seminars@sdge.com
Phone: 1-800-644-6133

Pre-registration is encouraged.
There is no fee to attend.

Forward to a Colleague

Twitter

Facebook

Ouellette, Mark

From: California Commissioning Collaborative <info@cacx.org>
Sent: Thursday, November 21, 2013 1:01 AM
To: Ouellette, Mark
Subject: Lighting controls training coming up in December

California Commissioning Collaborative

CALCTP Acceptance Testing Training

CALCTP-AT

The 2013 revision of California's Building Energy Efficiency Standards (Title 24, Part 6) expands requirements for lighting controls acceptance testing, and defines the required certifications for those performing acceptance tests. The 2013 codes go into effect on January 1, 2014.

The California Advanced Lighting Controls Training Program (CALCTP) is provisionally approved as a program that can certify individuals to perform acceptance testing for lighting controls (under the designation "CALCTP-AT"). On December 16, at the California Lighting Technology Center at UC Davis, CALCTP will be offering a 4-day training for individuals wanting to be certified as CALCTP-AT providers.

For more information on this upcoming training, check out the CALCTP website here or call the CALCTP-AT Helpdesk at (877) 670-7910.

Join our group on LinkedIn.

Forward to a Friend

IBEW Local 302

Information on Classes Available

Training

Inside Wireman Journeyman

Upgrade Training

CCC JATC

The following Electrical Certification Renewal Classes can be used toward your required 32 hours of Continuing Education:

ELECTRICAL GROUNDING Starts Thursday, May 1, 2014, at 5:30pm, runs 4 weeks (16 hours)

MOTOR CONTROLS Starts Thursday, April 24, 2014, at 5:45 pm, runs 8 weeks (32 hours)

OSHA 30 Safety Class Starts Monday, April 21, 2014, at 5:30 pm, runs 8 weeks (32 hours)

FOREMAN CLASS Starts Tuesday, May 27, 2014, at 5:30pm, runs 4 weeks (16 hours)

CALL NOW TO MAKE YOUR RESERVATION!!!!

INSTRUMENTATION THEORY AND PRACTICE

This is a revised instrumentation class with significantly more dedicated hands on labs. The class will start on Thursday, January 9, 2014, at 5:30 pm. and will run for 24 weeks ending with the EPRI Part A written exam.

ADVANCED LIGHTING CONTROLS (CALCTP)

If you want to be put on the interest list for this class, call the Training Center for the prerequisite requirements which consist of a 15 hour online prep class prior to starting the hands on portion. The class is a 12 week commitment and will start when we have 8 people completing the prerequisites.

Call Greg @ the Training Center at 925/372-7083 to sign-up for any of these classes. Classes must have 15 student minimum to hold the class.

VDV Sound & Communication

Journeyman Upgrade Training

No. CA VDV JATC

911 Bern Ct. #100

San Jose, CA 95112

Tel 408-453-3101 Fax 408-453-5822

www.norcal-jatc.com

http://www.norcalvdv.org

Important Updates

A Message from NorCal S&C JATC:

Norcal S&C JATC has scheduled our popular NEC Essentials/VDV Prep Upgrade class to the calendar. Click the link below to access the calendar.

In addition, we are very proud to announce that Sound & Communication members now have the option of obtaining an OSHA 10 or OSHA 30 certification ONLINE! To pre-register and view a course description, click on the link below.

http://www.norcal-jatc.com/pages/schedule_of_classes_installer.html

If you have any questions please contact us at info@norcal-jatc.com or call (408) 453-3101.

Norcal S&C JATC

Continuing Eductaion Classes Scheduled: NorCal S&C JATC has scheduled continuing education classes at varios locations.

Classes include Certified Fiber Optic Technician, Security/Access Systems, CCTV, Basic Word & Excel training and take advantage of our BICSI Copper 2 class. To register go to www.norcal-jatc.com then click on Installer Technician- Schedule of Classes to view the calendar. Click on the date class starts then click register.

Continuing Education Online Training: The Statewide Electricla JATC has partnered with 360 Training to provide online training for electrical workers (view flyer on NoerCal web site). THese courses provide a means for recieving continuing education hours for the CA State Certification re-certification option. We have provided a link to our Installer/Tech login portion of the NorCal web site to access the training.

E-Mail Database: We are continuing to build a database of NorCal S&C Members contact information including e-mail addresses. Members will then recieve information on upgrade classes, certification updates and other important issues fast and conveniently delivered to their inbox. To access theform go to www.nor-caljatc.com and click on Installer/Technician (apprentices may also provide information). Don't have an email address? There are many free e-mail providers available including; gmail, Yahoo and Hotmail to name a few. NorCal S&C JATCwill not sell or use your contact information for any purpose except to serve you in matters concerning the Northern CA Sound & Communications JATC.

Events such as Contact Registration and Upgrade Class registrations will be using the services of EventBrite, to view EventBrite's Privacy Policy visit www.eventbrite.com/privacypolicy/

Password: The password for accessing the registration forms and the installer/tech login portion of the web site is norcalsjatc . If you have questions regarding online registration or the certification practice tests please e-mail us at info@norcal-jatc.com .

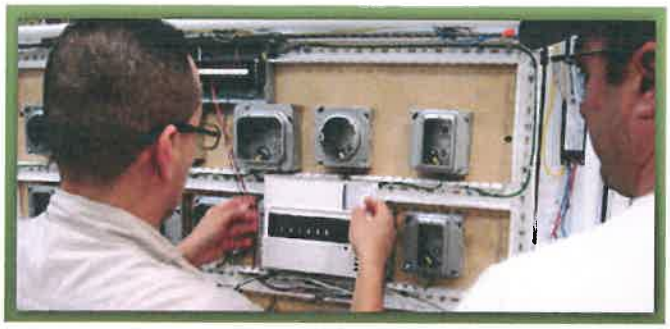
Terry Monroe

Assistant Training Director

4/20/12

FREE 50-Hour CALCTP Training Program!

Limited Seating! - ***The only publicly available training center offering this FREE program in SD County.***



What is CALCTP?

The California Advanced Lighting Controls Training Program (CALCTP) is a statewide initiative aimed at increasing the use of advanced lighting controls in commercial buildings and industrial facilities. Certification of advanced lighting issued by a CALCTP certified electrician to the building owner prior to their certificate of occupancy enables the owner to apply for additional rebates.

California
Advanced
Lighting
Controls
Training
Program

Why get Certified?

CALCTP will dramatically increase the demand for lighting controls in commercial buildings. For a building to be eligible for incentives, CALCTP partner utilities, which encompass over 90% of the California market, will require CALCTP-certified contractors and general electricians on each project. If you want to be part of this growing work opportunity, you must be certified.

Prerequisites:

* ***State Certified General Electricians only***
* Completion of four free online courses is <u>required prior</u> to enrollment. The four classes are available on the Lighting Controls Association website and can be found at http://aboutlightingcontrols.org/Education_Express/welcome.php

Training Location:

SDGE's Energy Innovation Center
4760 Clairemont Mesa Blvd.
San Diego, CA 92117

SDGE connected
A Sempra Energy utility

Grossmont-Cuyamaca Community College District

Students must attend orientation at Cuyamaca College prior to enrollment.

Contact Molly Ash to register for the orientation.
P: (619) 660-4578 E: molly.ash@gcccd.edu

This free training is made possible through IDRC grant funding. CALCTP is an equal opportunity program and auxiliary aids and services are available upon request to individuals with disabilities.

California Advanced Lighting Controls Training Program ALC

ORANGE COUNTY ELECTRICAL TRAINING TRUST

Please print and complete the registration form (click to download) and bring it to the office with any necessary payment

Subject:

CALCTP Acceptance Testing

Instructor: Jeff Gatlin

Goal:
Effective January 1, 2014, the California Energy Commission adopted changes to the California building Efficiency Standards (Title 24, Parts 1 and 6) that require lighting controls and devices to be certified as properly installed and operational, prior to issuance of occupancy permits. The California Advanced Lighting Controls Training Program-Acceptance Technician (CALCTP-AT) certifies acceptance technicians.

Candidates interested in applying as a CALCTP-AT Technician must submit an application which is available at www.calctp.org/acceptance-technicians and pay a $125.00 application fee as required. Note: Local 441 members may qualify for a refund of the application fee upon successful completion of the course. Contact the Training Center for further information.

Hours:	4:00pm - 8:00pm
Length:	5 Night's
Schedule:	Monday's and Thursday Night's

Textbook and Workbooks:
Pen and Notepad

Course Dates:

Start	End
Oct 10, 2013	**Oct 24, 2013**

Registration may be done in person or you can print a registration form which is available on our website at www.ocett.org on the Journeyman classes tab. All registrants must be members in good standing of IBEW Local 441 or Orange County Chapter of NECA.

Location:

Orange County Electrical JATC Training Center
717 S. Lyon St. Santa Ana, CA 92705

Class Outcome:

Prerequisite:

CALCTP Technician Certification and approval from CALCTP Board as Outlined above.

Attendence Detail:

Must attend all classes

Deposit / Fee:

*$30.00 refunded upon completion *441 members only. $500.00 non-members

Students will receive a certificate upon completion for CEU's

REJATC

REDWOOD EMPIRE JOINT APPRENTICESHIP & TRAINING COMMITTEE

April 21, 2014

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CALCTP-Advanced Lighting Control

Updated On: Dec 11, 2012

SHARE

CALCTP is a new program operated by representatives of the CA Lighting Technology Center, CA Energy Commission, CA Community College system, public utilities, electrical contractors, electrical workers, and manufacturers of advanced, high efficiency lighting and control systems.

CALCTP will educate, train, and certify electrical contractors and electricians in the best practices and most effective techniques to install, tune, commission, and maintain advanced lighting control systems.

In support of CALCTP, several LCA (Lighting Controls Association) Education Express online courses are now required as prerequisites before receiving live training by CALCTP. These include EE 101: Introduction to Lighting Control, EE 102: Switching Control, EE 103: Fluorescent Dimming and EE 201: Daylight Harvesting. Students may take these courses at any time, at their own pace, from anywhere, and for free; only a short registration is required.

www.aboutlightingcontrols.org

The live training is a 50 hour hands on lab/lecture being offered, here at the REJATC Training Center. If you are interested in getting certified in this special skill visit "Education Express" web site and sign up for the on line course(s). After completion of the prerequisites you decide to continue with the live training, contact Steve Stobel and he will help get you registered.

We have no classes scheduled. There will be $100.00 (checks only) refundable deposit, returned after the completion of the 50 hours, and a $35.00 (checks only) materials fee. The class will be available to the first members that have current General Electrician State Certification, complete the online courses, and bring their registration checks to the Training Center (class size is 4 members minimum/ 8 members maximum).

These hours count toward your State Continuing Education requirements.

IF YOU ARE INTERESTED IN ATTENDING THIS CLASS, CONTACT THE TRAINING CENTER :(707)523-3837 OR steves@ibewlocal551.org. YOU MUST BE REGISTERED AT LEAST TWO WEEKS PRIOR TO THE FIRST DAY OF CLASS. WE HAVE TO SUBMIT ROSTERS AND ORDER TESTS FROM THE COMPANY ADMINISTERING THE PROGRAM NO LATER THAN TWO WEEKS BEFORE THE CLASS STARTS. WE WILL CONFIRM THE CLASS SCHEDULE WHEN WE SUBMIT A REQUEST FOR THE TESTS.

Member Login

Username:

Password:

Login

Not registered yet?
Click Here to sign-up

Forgot Your Login?

<< April 2014 >>

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Action Center

IBEW Local 551 Wage Schedule Effective June 1st, 2008

Site Search

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Important Links

IBEW Local 551

Helmets to Hardhats

Santa Rosa Traffic/Weather Conditions

NECA

REEW Local 551 - Health & Welfare & Pension Trust Funds

Academic & Professional International Evaluations, Inc.

NJATC

Ca Div of Appr. Standards - Certification Dept

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FR Clothing
Performance Test
Monthly Work Report
Huckaby Scholarship

- These courses are open to members of IBEW Local 340, travelers, and NECA.
- All classes held at the Sacramento Electrical Training Center/JATC, 2836 El Centro Road.
- Courses are filled based upon the order we receive the completed registration.
- Priority is given to those who provide $25 deposits (per course); refundable upon course completion.
- Complete the registration form and submit to the address shown. Retain a copy for your information.
- You will be contacted only if the class is already full.
- For additional information, call 916-646-6688 or visit www.340jatc.org

Download the PDF version.

** PLC Lab Slideshow **
** Instrumentation Lab Slideshow **

Registration Form

1: Fill in your information

Name: _____ Phone: _____

Street Address or P.O. Box: _____

City: _____ State: ____ Zip Code: _____

Last 4 digits of Social Security Number (for recording course completions): _____

2. Submit this form to:

Spring 2014 Registrations
Sacramento Elec. Training Ctr.
2836 El Centro Rd
Sacramento, CA 95833
Fax 916-646-0289

3. Check the course(s) requested

Advanced Lighting Controls Certification (CALCTP) How to install lighting controls, lamp/ballast systems, line/low voltage switching controls, dimming controls, occupant sensors, photo-sensors and controllers, demand response controls, etc. Note: This class has a 10-12 hour online prerequisite. Once enrolled, we will contact you to explain completing the prereq.	☐ Jan 13 - 17, 7:30 am – 4pm ☐ Mar 24 - 28, 7:30 am – 4pm	50 hours 50 hours
CALCTP Acceptance Testing Certification On Jan 1st, Title 24 will require acceptance testing of most advanced lighting controls by certified Acceptance Testers. Note: Open only to members who are already CALCTP certified.	☐ Feb 11 – 20, T/Th, 5 – 9 pm ☐ May 6 - 15, T/ Th, 5 – 9 pm	16 hours 16 hours
Electric Vehicle Infrastructure Training Program (EVITP) Installation of electric vehicle charging systems, certified electrician's responsibilities, site assessment, load requirements, code/ safety requirements, customer relations, field installation.	☐ June 3 - 26, T/Th, 5 – 9 pm	32 hours
Effective Project Planning Project planning: plan analysis, specs, submittals, take-offs & detailing of blueprints, establishing site elevations, and hands-on training with an actual job for job sequencing and planning.	☐ Mar 8, 15, & 22, Saturdays, 8 am - 2:30 pm	18 hours
OSHA-10 (Sacramento) Certification on 10 different safety topics to convey the knowledge, skills and abilities to identify and mitigate job-site hazards.	☐ Sacramento June 7 & 14, Saturdays, 2 half-day sessions, 7:30 am - 2 pm ☐ Redding May 3 & 10, Saturdays, 2 half-days, 7:30 am - 2 pm	10 hours 10 hours
OSHA-30 for Construction Industry OSHA Standards, Focus Four Hazards, Personal Protective Equipment, Health Hazards, Stairways/Ladders, and 6 more topics. Participants receive a certified OSHA-30 completion card.	☐ Apr 8 – May 8, T/Th, 6 - 9 pm	30 hours
Electrical Code Update The 2011 NEC will become the electrical code for California effective January 1, 2014. This course covers the multiple, major changes that are going into effect.	☐ Jan 6, 13, & 15, M/W, 5 – 8 pm ☐ Feb 3, 5, & 10, M/W, 5 – 8 pm ☐ Mar 10, 12, & 17, M/W, 5- 8 pm	9 hours 9 hours 9 hours
Arc Flash Prevention (NFPA-70E) Electrical safety work practices for Hazard Risk Evaluation, Arc Flash, Approach boundaries, Job Briefing, Permits, and PPE.	☐ May 5, Monday, 5 - 8 pm	3 hours
CPR & First Aid Job-site skills in CPR and First Aid providing 2 year certification.	☐ May 31, Sat, 7:30 am– 3:30 pm	7 hours
CPR/First Aid Re-Certification Re-certification course for those with 2-year certification.	☐ April 23, Weds, 5-9 pm	4 hours
Level 1 Instrumentation Certification Nationally certification to install/maintain instrumentation control systems **covering symbols, calibration, P&ID, loop drawings, etc.**	☐ May 6 – Jul 10, T/Th, 5 – 8 pm	60 hours

Introduction to Medium Voltage Cables & Terminations Splicing safely, cable types, splicing types & techniques, splicing materials, & hands-on splicing lab.	☐ Jun 10 - 19, T/Th, 5 – 8 pm	12 hours
Overview of Conduit Bending Hands-on practice of bends & tools including concentric bending.	☐ March 11 - 25, T/Th, 5 – 8 pm	15 hours
Blueprint Reading & Take-Offs Interpreting specifications, notes, details, sections, and locations.	☐ Mar 29, Apr 5, & Apr 12, Saturdays, 8 am – 2:30 pm	18 hours
Motor Controls Fundamentals Correct installation, connection, and protection of electric motors including safety measures.	☐ March 10 - 25, M/T, 5 – 8 pm	18 hours
2014 Electrical Trade Show & Exposition No pre-enrollment required	Apr 2, Wednesday, 4 – 6 pm	2 hours
Rough Terrain Forklift (telehandler style) Operations covering regulations, equipment variations, main parts, safety, fuels and batteries, pre-use inspection, safe operating procedures, and parking/shut-down procedures including hands-on practice.	☐ Sacramento Feb 20 & 22, Th/Sat • Thurs Feb 20, 5 – 8 pm at Sacramento JATC, & • Sat, Feb 22, 7:30 am – 2:30 pm, at United Rentals in Sacramento ☐ Redding April 3 & 5, Th/Sat • Thurs Apr 3, 5 – 8 pm, Redding IBEW Hall, & • Sat, April 5, 7:30 am – 2:30 pm at United Rentals in Redding	9 hours 9 hours
Drop-in Cont. Ed: *No pre-enrollment required*	Jan 8, Wednesday, 5 - 6 pm Feb 5, Wednesday, 5 - 6 pm Mar 5, Wednesday, 5 - 6 pm	1 hour 1 hour 1 hour
Confined Space Entry Training Identifying permit requirements for confined spaces, use of gas monitoring equipment, proper ventilation of confined space, and alternate entry procedures.	☐ Redding M/W, March 24 & 26, 5 – 8 pm at Redding IBEW Hall ☐ Sacramento T/Th, May 13 & 15, 5 – 8 pm at Sac JATC	6 hours 6 hours
***Pending Exam*: Math Refresher** Basic review of working with and converting fractions and decimals.	☐ March 25, Tuesday, 5 - 8 pm	3 hours
***Pending Exam*: DC Theory Refresher** Review of Ohm's Law and calculating voltage, amperage, and resistance in series, parallel or combination circuits.	☐ March 27, Thursday, 5 - 8 pm	3 hours
***Pending Exam*: 3-Way & 4-Way Switching** Review of drawing and labeling 3-way and 4-way switch circuit combined with hands-on practice of circuit installation.	☐ April 1, Tuesday, 5 - 8 pm	3 hours
***Pending Exam*: 3-Phase Transformers** Review of 3-phase delta and wye transformer focusing on the primary and secondary hook-up of each transformer.	☐ April 3, Thursday, 5 - 8 pm	3 hours
***Pending Exam*: Motor Control** Review of drawing & labeling the components of a basic motor control circuit with hands-on wiring of a stop-start-jog circuit.	☐ April 8, Tuesday, 5 - 8 pm	3 hours
ELECT 210: DC Theory *Enroll through American River College.*	Jan 21 – May 22, Mon & Wed, 6 - 8:30 pm	75 hours
ELECT 211: AC Theory *Enroll through American River College.*	Jan 22 – May 21, Tues & Thurs, 6 - 8:30 pm	75 hours
ELECT 220: Blueprints & Lighting *Enroll through American River College.*	Jan 21 – May 22, Mon & Wed, 6 - 8:30 pm	75 hours
ELECT 230: Motors, Generators, & Transformers *Enroll through American River College.*	Jan 21 – May 22, Mon & Wed, 6 - 8:30 pm	75 hours
ELECT 280: State Certification Prep *Enroll through American River College.*	Jan 22 – Mar 14, Tues & Thurs, 5:30 - 8:30 pm	90 hours
ELECT 280: State Certification Prep *Enroll through American River College.*	Mar 19 – May 16, Tues & Thurs,5:30 - 8:30 pm	90 hours
ELECT 280: State Certification Prep *Enroll through American River College.*	Jan 19 – May 16, Saturdays, 8 am - 12:30 pm	90 hours

Note: Classes are not held on the 1st Wednesday of each month to accommodate attendance at the union meeting.

Journeyman Class Schedule

San Diego Electrical Training Center
4675 Viewridge Avenue
San Diego, CA 92123-1644

Spring 2013 semester
Vol. 2013-2 tri-annual

The classes listed in this schedule are designed for I.B.E.W. Local 569 members who wish to further their education. If you are interested in attending Journeyman classes at the Training Center, please read through this schedule and follow the simple registration instructions.

BASIC CPR AND FIRST AID FOR ADULTS

Certification in First Aid and CPR – card is good for two years. Participants learn to recognize several life-threatening emergencies, provide CPR, use of AED, and relieve choking. A $40 deposit is required to be officially enrolled in the class (see note section for deposit due dates). Deposit will be refunded upon successful completion of the class.

Day(s)	Dates	Deposit Due Date	# of Sessions	Time	Room	Location	Instructor
W	6/19	6/10	1	4:30-8:30pm	108	San Diego	Cole
Th	6/20	6/10	1	4:30-8:30pm	108	San Diego	Cole
M	7/1	6/21	1	4:30-8:30pm	108	San Diego	Cole/Moylan
T	7/2	6/21	1	4:30-8:30pm	108	San Diego	Cole/Moylan

CALCTP (California Advanced Lighting Control Training Program) TECHNICAL COURSE

PRE-REQUISITE: Because the lecture and lab work moves along at a challenging pace, all participants must be equally prepared prior to enrollment. The prerequisite studies are on the Lighting Controls Association website - modules EE101, EE102, EE103, and EE201 (Approximately 12 hours). These courses can be found at http://aboutlightingcontrols.org/ Education_Express/welcome.php. For enrollment in CALCTP, applicants must present the certificates of completion for online study to the Training Center prior to enrollment in the CALCTP course.

This course has fourteen (14) sessions and is divided into modules consisting of both lecture and lab activities. The module content is organized to answer the following questions about lighting controls: what they are, what they do, where they are used, and how they are installed. Each lecture contains one or more interactive components, including group discussions, device demonstrations and/or calculation exercises. The corresponding lab period, following the lecture, allows the attendee to directly apply what has been learned by installing the devices on specially-designed lab boards, under the supervision of the CALCTP-certified instructor(s). The course consists of the online prerequisites, lecture and a final exam. Take the free online courses and become a CALCTP Certified Electrician!

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
S/M/W	5/18-6/27	14	Sat 7:30am-3:30pm Mon/Wed 5-8:30pm	101/210	San Diego	Hemingway/Stark/Tabbert

**Lectures are on Saturdays 5/18 & 6/8. Labs begin on 5/21 (Mon).*

CODE CALCULATIONS: BOX FILL

This course covers Article 314 of the NEC (National Electric Code) which covers the installation and use of all boxes and conduit bodies, used as outlet, device, junction, or pull boxes. Special emphasis will be put on box fill and box volume calculations. All participants will become familiar with Table 314.16(A) for metal boxes and Table 314.16(B) Volume Allowance Required per Conductor. Students will be taught how to calculate the available space or volume for a given box when there are devices and/or equipment installed or planned to be installed in that box. NOTE: Please bring a code book and calculator to class. NOTE: Please bring a code book and calculator to class.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	5/10	1	4:30-8pm	201	San Diego	Collier

CODE CALCULATIONS: CONDUCTOR AMPACITY

This course covers Section 310.15 of the NEC (National Electric Code) which covers Ampacities for Conductors Rated 0-2000 volts. All participants will become familiar with Table 310.13 for Conductor Application and Insulation, 310.15(B)(2)(a) Adjustment Factors for More Than 3 Current Carrying Conductors in a Raceway, Table 310.15(B)(6) Conductor Types and Sizes for 120/240, 3-wire, Single Phase Dwelling Services and Feeders. NOTE: Please bring a code book and calculator to class.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	5/31	1	4:30-8pm	201	San Diego	Collier

CODE CALCULATIONS: RACEWAY FILL

NOTE: Please bring a code book and calculator to class.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	6/28	1	4:30-8pm	201	San Diego	Collier

CODE CALCULATIONS: VOLTAGE DROP

This course introduces the student to equations used to calculate resistance and voltage drop based on Table 8, Chapter 9 of the NEC (National Electrical Code). All participants will become familiar with Table 8 of Chapter 9, Conductor Properties and Table 310.16 Allowable Ampacities of Insulated Conductors Rated 0 through 2000 Volts. Students will be taught how to calculate the resistance of a given wire size

using the resistance equations based on the code book values of Table 8, Chapter 9 and how to use that resistance value to calculate the voltage drop for an electrical circuit. NOTE: Please bring a code book and calculator to class.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	6/7	1	4:30-8pm	201	San Diego	Collier

CONFINED SPACE ENTRY

This course teaches workers about the most common hazards found in confined spaces, and about the OSHA standards (29 CFR Part 1926 for construction & 29 CFR Part 1910 for the general industry) that addresses these hazards. The course also teaches the worker how to use the NIOSH (National Institute for Occupational Safety and Health) Pocket Guide to Chemical Hazards which contains key information and data for 677 chemicals or substances commonly found in the work environment. Participants have learned about safe entry procedures, monitoring principles, entry permits procedures, proper ventilation methods, personal protective equipment, and the roles of the entrant, attendant, and entry supervisor.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	9/27	1	4:30-8pm	201	San Diego	Collier

ELECTRICAL CERTIFICATION STATE EXAM PREP

This course is designed to review and reinforce electrical concepts and knowledge of the National Electric Code to prepare the student for the California Electrician Certification examination. This class will cover Codeology based on the 2011 NEC and will include extensive practice using electrical calculations and code look-up. Completion of this class will give the student knowledge to excel in the workplace and on the California Certification examination.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
T/Th	5/21-8/8	24	5-8:30pm	212/213	San Diego	Duggins

ELECTRICAL REQUIREMENTS FOR HEALTH CARE FACILITIES, NEC ARTICLE 517

This course covers 2008 National Electrical Code (NEC) requirements for electrical installations in health care facilities. Health care facility installations differ from other installations in many important ways. Article 517 addresses areas that involve examination and treatment of patients and includes both permanent and movable facilities. Many specialized definitions that only apply to health care facilities will be explained.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	8/9	1	4:30-8pm	201	San Diego	Collier

ELECTRICAL REVIEW

This 10-session class uses Mike Holt's Electrical Exam Preparation book for a comprehensive review of electrical fundamentals and the National Electric Code. Each of the sessions is stand-alone – allowing students to join the class at any point throughout the course. This course covers basic electrical theory with an emphasis on its application under guidelines of the NEC.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
MW	5/20-6/24	10	5-8pm	108	San Diego	Volper
MW	7/8-8/7	10	5-8pm	108	San Diego	Volper

ELECTRICAL VEHICLE INFRASTRUCTURE TRAINING PROGRAM (EVITP)

PREREQUISITE: *Because the lecture and lab work moves along at a challenging pace, all participants must be a state certified general electrician. Must bring current state certification card to the Training Center BY 7/5/2013.* The Electrical Vehicle Infrastructure Training Program (EVITP) has been established to provide the Electrical Vehicle Transportation sector of the electrical industry, and all stakeholders, a structured platform to facilitate training and certification for the installation of Electrical Vehicle Supply Equipment (EVSE) across Residential and Commercial/Public markets. The program addresses the technical requirements, safety imperatives and performance integrity of industry partners. Students must pass the hands-on and written to successfully complete the course.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
T/Th	7/9-8/8	10	5-8:30pm	214	San Diego	Stark/Tabbert

FIRE ALARM INSTALLATIONS

This course covers installations of fire alarm systems, including Codes and troubleshooting.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
T	5/28-7/30	10	5-8pm	111	San Diego	Bressette

FIRE/LIFE SAFETY/VDV PREP FOR STATE CERTIFICATION

This course is designed to help you pass the California VDV & Fire/Life Safety state certification exam.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
Th	5/30-8/8	10	5-8pm	111	San Diego	Bressette

METER USE AND SAFETY

Each student will be trained on the safe use of digital multimeters and will be required to physically demonstrate his or her ability to safely use a multimeter to test an electrical circuit for the presence and/or absence of voltage. This course is also designed to teach electricians about electrical hazards and about the protective devices (PPE) and safety practices (NFPA70E) that can help prevent injuries and equipment damage on the job. The course discusses safety hazards and protective devices. It also presents a step-by-step explanation of safety practices associated with switching, tagging (LOTO), testing, and protective grounding. In addition, the electrical fundamentals needed for competent use of digital multimeters will be explained during this session along with the differences between AC & DC, volts, amps, and ohms. The meaning of these terms will be covered in the most basic and simplest of terms.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	9/13	1	4:30-8pm	201	San Diego	Collier

OSHA 10

This course covers the following topics: Introduction to OSHA, OSH Act, inspections, citations, and penalties; walking and working surfaces, means of egress and fire protection, electrical flammable and combustible liquids, personal protective equipment, machine guarding, hazard communication, introduction to industrial hygiene/blood borne pathogens and health & safety programs. Upon successful completion of this course, the official OSHA course completion wallet card will be sent to you.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
M	6/3-6/24	4	5-8pm	108	San Diego	Lavigne
T	6/4-6/25	4	5-8pm	108	San Diego	Lavigne

OSHA 30/EM-385 CONSTRUCTION HAZARD AWARENESS

The curriculum structure mandated by Fed OSHA is closely followed in the aspects of construction safety. This 30 hour Cal/OSHA course reviews standards, procedures and policies for construction workers in California. The course also covers general safety awareness, required procedures, content and structure of the USACE Engineering Manual "EM-385-1-1-2008 Safety requirements and the 29 CFR Park 1926 Federal OSHA's Safety and Health Requirements for Construction. Register for this class on our website to find out how to receive the course textbook for free. Upon successful completion, student will receive a 30 Hour Outreach card.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
T/Th	5/14-6/20	12	5-8:30pm	214	San Diego	Collier
M/W	6/24-7/31	12	5-8:30pm	214	San Diego	Collier

REFRESHER FOR BASIC CPR AND FIRST AID FOR ADULTS

This course is a RENEWAL course for those who need to refresh their CPR/First Aid skills and renew their CPR/First Aid card. Recertification in First Aid and CPR – card is good for two years. A $40 deposit is required to be officially enrolled in the class (see deposit due dates below). Deposit will be refunded upon successful completion of the class.

Day(s)	Dates	Deposit Due Date	# of Sessions	Time	Room	Location	Instructor
M	5/6	5/3	1	5-7PM	201	San Diego	Cole/Moylan
T	5/7	5/3	1	5-7pm	201	San Diego	Cole/Moylan
T	5/21	5/13	1	5-7pm	108	San Diego	Cole
W	5/22	5/13	1	4:30-6:30pm	108	San Diego	Cole
TH	5/30	5/24	1	4:30-6:30pm	108	San Diego	Cole
T	6/4	5/28	1	4:30-6:30pm	201	San Diego	Cole/Moylan
W	6/5	5/28	1	4:30-6:30pm	108	San Diego	Cole
TH	6/6	5/28	1	4:30-6:30pm	108	San Diego	Cole
T	6/18	6/10	1	4:30-6:30pm	201	San Diego	Cole/Moylan
T	6/25	6/17	1	4:30-6:30pm	201	San Diego	Cole/Moylan
W	6/26	6/17	1	4:30-6:30pm	108	San Diego	Cole
TH	6/27	6/17	1	4:30-6:30pm	108	San Diego	Cole
T	7/16	7/9	1	4:30-6:30pm	108	San Diego	Cole
W	7/17	7/9	1	4:30-6:30pm	108	San Diego	Cole
TH	7/18	7/9	1	4:30-6:30pm	108	San Diego	Cole

SOLAR PHOTOVOLTAIC SYSTEMS SAFETY TRAINING

This course addresses safety issues surrounding the installation, maintenance, and repair of the DC source components of solar photovoltaic systems. Students learn the procedures for handling modules, connecting strings, and terminating combiner boxes and inverters safely to prevent equipment damage, arcs, shocks, or burns to personnel. Procedures for safely opening array strings are defined and explained. The use of appropriate personal protective equipment (PPE) is emphasized. This course focuses on hazards found on the "live" DC source components of a PV array.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	7/12	1	4:30-8:30pm	201	San Diego	Duggins
F	8/23	1	4:30-8:30pm	201	San Diego	Duggins

TRANSFORMER TESTING & MEGGERING

LOTO, how insulation resistance is measured, factors affecting insulation resistance reading, test voltage vs. equipment rating, basic meter use and meter safety (megohm meter & digital multimeter), how to connect test instruments for safe testing of electrical equipment, test using multi-voltage megger insulation testers.

Day(s)	Dates	# of Sessions	Time	Room	Location	Instructor
F	7/26	1	4:30-8pm	201	San Diego	Collier

Need your 32-hours of continuing education in a hurry to renew your state certification? Get it now by taking the FREE Education Express online Lighting Control courses through Lighting Controls Association (LCA). These online courses also meet the requirements to take the California Advanced Lighting Control Training program (CALCTP) course. Visit our website for more information.

SAN FRANCISCO JOINT APPRENTICESHIP AND TRAINING COMMITTEE
4056 MISSION STREET • SAN FRANCISCO, CA 94112
E-mail: info@ sfjatc.com • *Website:* sfelectricaltraining.com

INSIDE WIREMAN
PHONE (415) 587-2500 • FAX (415) 585-4117

SOUND AND COMMUNICATIONS
PHONE (408) 453-3101 • FAX (408) 453-5822

San Francisco Joint Apprenticeship and Training Committee

Continuing Education

Spring Courses - 2014

Please review the brief descriptions provided and select the courses and times most convenient for you. Complete the Registration Form and return it with the required fees. Please make additional copies if needed.

All courses will be filled on a first come, first served basis*. **You will receive credit ONLY for the hours you attend.** Deposits will be returned to those whose enrollment exceeds the allowable class size. ***There will be no refunds to those who are enrolled and do not attend.***

All registrations must be mailed or submitted in person at the JATC office at ***4056 Mission Street***, Monday through Thursday, 9:00 a.m. to 5:00 p.m. & 9:00am - 4:30pm on Fridays. We cannot accept registration or reserve status by telephone or fax. Related texts and materials will not be sold other than to class attendees.

*These courses are open to ***IBEW MEMBERS*** with registration preference being granted to those working for Signatory Contributing Contractors in the Unit classification most appropriate to the course. **Apprentices will be allowed to attend *IF* openings are available. Contact the J.A.T.C. to be placed on the waiting list.**

All classes will be held at the S.F.J.A.T.C. Training Facility at ***4056 Mission Street, San Francisco, CA.,*** unless otherwise notified. There is some street parking available. **Parking in school or church parking lot is not allowed.** The school is located 5 blocks walking distance from Glen Park Bart Station.

Registration forms on-line @ www.sfelectricaltraining.com

"BRIDGING THE FUTURE THROUGH TRAINING"

SAN FRANCISCO JOINT APPRENTICESHIP AND TRAINING COMMITTEE
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INSIDE WIREMAN
PHONE (415) 587-2500 • FAX (415) 585-4117

SOUND AND COMMUNICATIONS
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November 13, 2013

Dear Brothers and Sisters,

The Holiday Season is coming and everyone is probably thinking about family, good times and what 2014 will be like. Hopefully full employment and plenty of new construction and remodel work for all Unions members and Contractors.

Looking at 2014 there will be many changes in the way we do our work and what we have to do to maintain it. Non Union is trying to work their way into our area and the best way to beat them back is by having a strong and intelligent workforce, ready to complete the jobs on time and under budget, Right the First Time. 2014 will have extensive changes to the California Title 24 Lighting requirements, testing of Title 24 Lighting installation and we will be on the NEC 2011 Code. There will also be a new State Certification test coming out later in the year.

An interesting twist to the California Title 24 Lighting requirements and installations is that we can inspect our own work, not the San Francisco Electrical Inspectors but you, the installer. The State of California has put together new testing procedures on these installations and you have to be certified to inspect.

The process to become certified is a lengthy one and it consist of the following:

1) Taking and passing the CALCTP lighting course (50 hours)
2) Taking and passing the CALCTP Acceptance Testing course (16 hours)

We will be offering these class and many more such as:

1) Changes to the NEC 2011 Code
2) Title 24 lighting requirements
3) Electrical requirements in the California Building Code
4) Motor Control
5) Power Quality
6) HVAC Controls

I wish everyone a Happy Thanksgiving, Merry Christmas and Happy Holidays

Stephen M. Powers

Stephen M. Powers
Training Director

Advanced Conduit Bending .....Course #SP101

Days: Mondays & Wednesdays
Time: 4:30 pm to 7:30 pm
Nights: Five (5) Nights
Dates: January 6th, 8th, 13th, 15th & 22nd
Class Size: 8 Minimum – 12 Maximum
Instructors: Dan Keeney

Total Hours for this course: 15 Hours

Description: Bending 2 ½" EMT thru 4"EMT on the GREENLEE 881 Hydraulic Bender, measuring techniques, matching bends and segment bending.

*Course Fee.....**$40.00**
*(will be refunded-in-full if all classes are attended).

2014 Title 24 Lighting & CA. Building Code Elec. Requirements.....Course #SP102

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:30 pm
Nights: Four (4) Nights
Dates: January 7th, 9th, 14th & 16th
Class Size: 8 Minimum – 12 Maximum
Instructor: David Green

Total Hours for this course: 12 Hours

Description: The class will focus on the new Title 24 codes that will go into effect in 2014. All IBEW members should know how to understand & implement the new Title 24 codes.

*Course Fee.....**$40.00**
*(will be refunded-in-full if all classes are attended).

Estimating/Take-Off Class.....Course #SP103

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:30 pm
Nights: Six (6) Nights
Dates: January 7th, 9th, 14th, 16th, 21st & 23rd
Class Size: 10 Minimum – 15 Maximum
Instructor: Bob Bourdet

Total Hours for this course: 18 Hours

Description: This class will cover basic estimating, material take off, labor unit review and specification review. It will teach you how to use the estimate for job management, and will cover both new spaces and tenant improvement projects.

*Course Fee.....**$40.00**
*(will be refunded-in-full if all classes are attended).

Introduction to Variable Frequency Drives .....Course #SP104

Days: Monday & Wednesday
Time: 4:30 pm to 7:30 pm
Nights: Two (2) Nights
Dates: February 3rd & 5th
Class Size: 6 Minimum – 12 Maximum
Instructor: Bill Weindorf

Total Hours for this course: 6 Hours

Description: Class provides an introduction to VFD principles of operation, VFD installation, VFD programming and VFD start-up. Class includes hands-on programming and use of test instruments.

*Course Fee.....**$25.00**
*(will be refunded-in-full if all classes are attended).

Changes to the 2011 NEC .....Course #SP105

Days: Tuesdays & Thursdays — Total Hours for this course: 15 Hours
Time: 4:30 pm to 7:30 pm
Nights: Five (5) Nights
Dates: February 4th, 6th, 11th, 13th & 18th
Class Size: 12 Minimum – 18 Maximum
Instructor: Gary Clifton

Description: This course will review the most important changes of the 2011 NEC.

*Course Fee.....$40.00
*(will be refunded-in-full if all classes are attended).

Foreman Development Training.....Course #SP106

Days: Tuesdays & Thursdays — Total Hours for this course: 32 ½ Hours
Time: 4:30 pm to 7:45 pm
Nights: Ten (10) Nights
Dates: February 4th, 6th, 11th, 13th, 18th, 20th, 25th, 27th, March 4th & 6th
Class Size: 10 Minimum – 20 Maximum
Instructor: John Gallagher

Description: Class will cover all aspects of being a Forman in the Electrical Industry. How to put a job together, dealing with manpower, order material, etc. Organizational skills, communication skills & attitude will all increase after this class.

*Course Fee.....$40.00
*(will be refunded-in-full if all classes are attended).

Power Quality.....Course #SP107

Days: Monday, Tuesday, Wednesday & Thursday — Total Hours for this course: 12 Hours
Time: 4:30 pm to 7:30 pm
Nights: Four (4) Nights
Dates: March 10th & 12th (Mon & Wed) & 18th & 20th (Tue & Thur)
Class Size: 8 Minimum – 12 Maximum
Instructor: Bill Weindorf

Description: How to use digital multimeters and Fluke 43B Power Quality Meter to diagnose power quality problems. Voltage drop, voltage transients, Power Factor, Harmonics, Current Inrush and Average -vs- True RMS meters.

*Course Fee.....$40.00
*(will be refunded-in-full if all classes are attended).

First Aid/CPR.....Course #SP108

Days: Monday & Wednesday — Total Hours for this course: 6 Hours
Time: 4:30 pm to 7:30 pm
Nights: Two (2) Nights
Dates: March 3rd & 5th
Class Size: 6 Minimum – 12 Maximum
Instructor: Fred Maggiora

Description: Emergency response CPR and Basic First Aid. It can save a life on the jobsite or at home.

Course Fee.....$30.00

Advanced Conduit Bending .....Course #SP109

Days: Mondays & Wednesdays
Time: 4:30 pm to 7:30 pm
Nights: Five (5) Nights
Dates: March 3rd, 5th, 10th, 12th & 18th
Class Size: 8 Minimum – 12 Maximum
Instructors: Dan Keeney

Total Hours for this course: 15 Hours

Description: Bending 2 ½" EMT thru 4"EMT on the GREENLEE 881 Hydraulic Bender, measuring techniques, matching bends and segment bending.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

Motor Controls.....Course #SP110

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:30 pm
Nights: Six (6) Nights
Dates: March 4th, 6th, 11th, 13th, 18th & 20th
Class Size: 7 Minimum – 10 Maximum
Instructor: Bart Murray

Total Hours for this course: 18 Hours

Description: Class will cover motor theory and operation of both AC and DC motors, Article 430 of the NEC, hands-on wiring of single phase and three phase motors, drawing ladder diagrams, wiring diagrams and hands-on control wiring.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

Foreman Development Training.....Course #SP111

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:45 pm
Nights: Ten (10) Nights
Dates: April 1st, 3rd, 8th, 10th, 15th, 17th, 22nd, 24th, 29th & May 1st
Class Size: 10 Minimum – 20 Maximum
Instructor: John Gallagher

Total Hours for this course: 32 ½ Hours

Description: Class will cover all aspects of being a Forman in the Electrical Industry. How to put a job together, dealing with manpower, order material, etc. Organizational skills, communication skills & attitude will all increase after this class.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

ACCEPTANCE TESTING .....Course#SP112

Days: Mondays & Wednesdays
Time: 4:30 pm to 8:30 pm
Nights: Four (4) Nights
Dates: April 7th, 9th, 14th & 16th
Class Size: 8 Minimum – 20 Maximum
Instructor: Sean Farrell

Total Hours for this course: 16 Hours

Description: Must have completed and passed CALCTP 50 hour course. Allows inspections of CALCTP Title 24 installations.

Course Fee.....**$50.00**

OSHA 30 Hour Training**.....*****Course #SP113***

Days: Mondays & Wednesdays
Time: 4:30 pm to 8:30 pm
Nights: Eight (8) Nights
Dates: April 7th, 9th, 14th, 16th, 21st, 23rd, 28th & 30th
Class Size: 20 Minimum – 30 Maximum
Instructor: Shawn Skaggs

Total Hours for this course: 32 Hours

Description: Class will cover thirty-two (32) hours of training. Thirty hours are required by the Occupational Health and Safety Act (OSHA), that apply towards the 30-hour Construction Industry course completion card. The course is comprised of 25 Sections that will cover hazards and safety requirements in the construction trades.

*Course Fee.....**$30.00**

*(will be refunded-in-full if all classes are attended).

EVITP Charging Station**.....*****Course#SP114***

Days: Tuesdays & Thursdays
Time: 4:30 pm to 8:30 pm
Nights: Eight (8) Nights
Dates: April 8th, 10th, 15th, 17th, 22nd, 24th, 29th & May 1st
Class Size: 10 Minimum – 20 Maximum
Instructor: Phil Simmons

Total Hours for this course: 32 Hours

Description: Course will include brand-specific training to insure candidates are able to expertly and safely install a wide variety of electric vehicle infrastructure including charging stations, distributed generation, facility based electrical storage devices, and other industry products.

*Course Fee.....**$30.00**

*(will be refunded-in-full if all classes are attended).

First Aid/CPR**.....*****Course #SP115***

Days: Tuesday & Thursday
Time: 4:30 pm to 7:30 pm
Nights: Two (2) Nights
Dates: April 22nd & 24th
Class Size: 6 Minimum – 12 Maximum
Instructor: Fred Maggiora

Total Hours for this course: 6 Hours

Description: Emergency response CPR and Basic First Aid. It can save a life on the jobsite or at home.

Course Fee.....**$30.00**

HVAC Controls**.....*****Course #SP116***

Days: Mondays & Wednesdays
Time: 4:30 pm to 8:30 pm
Nights: Eight (8) Nights
Dates: April 28th, 30th, May 5th, 7th, 12th, 14th, 19th & 21st
Class Size: 8 Minimum – 16 Maximum
Instructor: Tony Ferguson

Total Hours for this course: 32 Hours

Description: Fundamentals of HVAC Systems, Fundamentals of Digital Controls, Building Management Systems, Building Automation Systems, Blueprint Reading and Job Layout.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

Safe Work Practices 70E .....Course#SP117

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:30 pm
Nights: Five (5) Nights
Dates: May 6th, 8th, 13th, 15th & 20th
Class Size: 10 Minimum – 20 Maximum
Instructor: Paul Ortiz

Total Hours for this course: 15 Hours

Description: Awareness of hazards facing the Electrical Worker working on or near energized Electrical Equipment: Lockout/Tagout, P.P.E., Etc.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

Motor Controls.....Course #SP118

Days: Tuesdays & Thursdays
Time: 4:30 pm to 7:30 pm
Nights: Six (6) Nights
Dates: May 6th, 8th, 13th, 15th, 20th & 22nd
Class Size: 7 Minimum – 10 Maximum
Instructor: Bart Murray

Total Hours for this course: 18 Hours

Description: Class will cover motor theory and operation of both AC and DC motors, Article 430 of the NEC, hands-on wiring of single phase and three phase motors, drawing ladder diagrams, wiring diagrams and hands-on control wiring.

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

SPRING 2014 CONTINUING EDUCATION COURSES

Advanced Conduit Bending	***15 Hours***
Acceptance Testing	***16 Hours***
CALCTP	***50 Hours***
Estimating/Take Off Class	***18 Hours***
EVITP Charging Station	***32 Hours***
First Aid/CPR	***6 Hours***
Foreman Development Training	***32 Hours***
HVAC Controls	***32 Hours***
Introduction to VFD	***6 Hours***
Motor Controls	***18 Hours***
OSHA 30 Hour Training	***32 Hours***
Power Quality	***12 Hours***
Safe Work Practices 70E	***15 Hour***
2014 Title 24 Lighting/CA Building Code	***12 Hours***

REGISTRATION FORM

Spring 2014 Courses

(Sorry, we can not accept CASH PAYMENTS)

Complete and forward this Registration Form with your **check** or **money order ONLY** made payable to:

S. F. J. A. T. C.
4056 Mission Street ~ San Francisco, CA 94112

(No fax or telephone orders accepted.)

Name: _____
(Please Print Clearly)

Address: _____

City/State/Zip: _____

Telephone Number: (___)_____ **E-Mail Address:** _____

IBEW Card: _____ *(Mandatory for registration)* **Social Security #:**_____ *(Last 4 digits)*

Current Employer: _____

(*Check one*: ☐ **Inside Wireman** ☐ **Sound & Comm.** ☐ **Marine** ☐ **Other**_____)

Course Name:_____ **Course Number:**_____

Please send a SEPARATE Registration form and CHECK for EACH class. *(Make copies if needed.)*

Today's Date: _____ **Course Fee: .....$**_____

***TOTAL Enclosed*.....$**_____

******You will receive a call ONLY if class is cancelled******

There will be no refunds to those who are enrolled and do not attend.

Office Use Only

Check Number: _____ *Money Order Number:* _____

Date Received: _____ *Enrolled:* _____

SPRING 2014

California Advanced Lighting Controls Class

The new Advanced Lighting Controls Class will consist of a ten to fifteen hour online pre-requisite and fifty mandatory hours of classroom time. There will be an orientation one week before class starts to go over all the requirements. This is a new class that is required by PG&E to do lighting in our buildings across San Francisco and the State of California. The class will be 12 nights, 4:30pm to 8:30pm, plus orientation. We can only take 16 wiremen at a time for this class and we will have a waiting list. The class will consist of lecture and a tremendous amount of hands on work (labs). At the conclusion of the class there will be a written test that will have to be taken and passed by the student to become certified in Advanced Lighting Controls. All hours related to this class can also be used for your required 32 hours for California Electrical Certification.

You must be an IBEW Journeyman or Apprentice & have a current legal California Electrical Certification License.

You must attend all classes and pass the comprehensive final exam in order to be eligible for the completion certificate. If you have any questions please call.

Stephen M. Powers
Training Director SFJATC

California Advanced Lighting Controls Training Program Class Schedule

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1) **Course# CAL103**

Orientation:	December 16, 2013 (4:30pm – 6:30pm)
Class Schedule:	January 6th, 7th, 8th, 9th, 13th, 14th, 15th, 16th, 21st, 22nd, 23rd & 27th
Class Time:	4:30pm – 8:30pm

2) **Course# CAL104**

Orientation:	January 21st, 2014 (4:30pm – 6:30pm)
Class Schedule:	February 3rd, 4th, 5th, 6th, 10th, 11th, 12th, 13th 18th, 19th, 20th & 24th
Class Time:	4:30pm – 8:30pm

Class Size 8 Min – 16 Max

*Course Fee.....**$40.00**

*(will be refunded-in-full if all classes are attended).

California Advanced Lighting Controls Training Program

Section 1.2. Pre-requisites

Because the lecture and lab work moves along at a challenging pace it is necessary that all participants are equally prepared prior to enrollment. In establishing the policy, the CALCTP Board was concerned about unprepared students slowing down the pace of the class and impacting the quality of instruction. The prerequisite studies are on the Lighting Controls Association website—online program and are modules EE101, EE102, EE103, EE201 (Approximately 12 hours). These courses can be found at: http://www.aboutlightingcontrols.org/Education_Express/accr_orgs.php. For CALCTP enrollment, participants must present a certificate of completion for online study before beginning the CALCTP course.

Section 1.3: Admissions:

Participants must demonstrate proof of eligibility by bringing a certificate of prerequisite coursework completion found at: www.aboutlightingcontrols.com.

Participants must also provide their California State Certified General Electrician Certification number.

Section 2.1. Enrollment Forms and Required Information

- **All participants must provide their California State Certified General Electrician Certificate number at the time of enrollment.**

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California Advanced Lighting Controls Training Program
Registration Form – SPRING 2014

S. F. J. A. T. C.
4056 Mission Street
San Francisco, CA 94112
(415) 587-2500 ~ Fax: (415) 585-4117

Name: ____
(Please Print Clearly)

Address: ____

City/State/Zip: ____

Telephone Number: (____)____________________ **E-Mail Address:** ____________________

IBEW Card: ____________________ *(Mandatory for registration)* **Social Security #:**_______ *(Last 4 digits)*

California State Electrician Certification Number:____________________________

Current Employer: ____

(*Check one*: ☐ **Inside Wireman** ☐ **Sound & Comm.** ☐ **Marine** ☐ **Other**______________)

Course Name:________________________________ **Course Number:**________________

Course Fee..**$40.00**

Must have & show proof of when enrolled in course.

You will receive a call ONLY if class is cancelled
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Santa Clara County Electrical JATC

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April 21, 2014

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Action Center

CALCTP / CALCTP-AT

What is CALCTP/CALCTP-AT?

Dec 02, 2013

Why Advanced Lighting Controls?

The California Advanced Lighting Controls Training Program (CALCTP) is a statewide initiative aimed at increasing the use of lighting controls in commercial buildings. CALCTP will educate, train and certify licensed C-10 electrical contractors, state-certified general electricians in the proper design, installation and commissioning of advanced lighting control systems. Advanced lighting control systems typically include: dimmers, occupancy sensors, photo-sensors, relay modules, and communication-based control devices.

Through proper installation practices, advanced lighting controls have the potential to improve energy efficiency in commercial facilities across California and help achieve significant energy savings.

What is CALCTP Besides Electrician Training?

To ensure proper commissioning and design, the CALCTP partners have developed a business component on how to effectively price an installation. Additionally, CALCTP partners are developing a course for specifiers (Architects, Engineers, Lighting Designers) on advanced lightning controls design and specification.

Who is CALCTP?

The CALCTP is a collaboration of:

- California State Labor Management Cooperation Committee for the International Brotherhood of Electrical Workers and the National Electrical Contractors Association (LMCC/IBEW-NECA)
- California Community College System
- California Energy Commission
- University of California-Davis-California Lighting Technology Center
- Pacific Gas and Electric (PG&E)
- Southern California Edison (SCE)
- San Diego Gas and Electric (SDG&E)
- Sacramento Municipal Utility District (SMUD)
- National Electrical Manufacturers Association

CALCTP-AT

What is behind the new lighting controls and acceptance testing?
AB32 signed by then Governor Schwarzenegger in 2006 set out an ambitious plan for California to reduce its carbon footprint by reducing greenhouse gas emissions by 30% by 2020. In response to AB32, the California Public Utilities Commission in 2008 published, and updated in 2011, the California Long-term Energy Efficiency Strategic Plan (Strategic Plan) which set bold market transformation energy efficiency goals for the state that has led to updates to the energy efficiency sections of the California state building code – Title 24.

Who is requiring acceptance testing?
The California Energy Commission under Title 24 requires that comprehensive lighting controls be acceptance tested. The 2013 code greatly expands the lighting control requirements for commercial, non-residential buildings.

What is Acceptance Testing?
Acceptance testing is one part of a multi-stage compliance program that ensures newly constructed buildings and new construction in existing buildings conforms to energy-efficiency standards contained in Title 24, Part 6 of the California Code of Regulations (CCR). Acceptance testing consists of a series of construction inspections and functional tests for different types of mechanical and electrical systems. These inspections and tests ensure that applicable systems are installed and operate correctly.

Why This Rule, and Why Now?
Acceptance testing has been around since 2005, but only for new buildings and retrofits impacting over 50% of the existing luminaires or ballasts. The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) require more acceptance testing and establish a criteria for what skills a state certified acceptance technician needs to have.

What spaces will be affected?
The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) states that the following commercial buildings will have to comply with new acceptance testing requirements:

1) All newly constructed commercial buildings (no previous occupancy)
2) Any addition
3) Any alteration that adds new equipment to an existing space (retrofit) that modifies more than 10% of the existing luminaires or ballasts, or any retrofit of < 40 ballasts or luminaires.

What has to be done for a space to be acceptance tested?
While the acceptance test process is a separate and independent process, Title 24 regulations now require that a Commissioning Report be completed and provided to the Building Owner before a building occupancy certificate can be provided. A lighting control "acceptance test" report is required as part of this larger commissioning report.

If I am an electrical contractor, can I also acceptance test my own work?
Yes, as long as you are a state certified acceptance testing contractor and the work is performed only by a state licensed acceptance technician. For CALCTP we are identifying these as CALCTP-AT or CALCTP acceptance testing contractors.

Do I have to be a CALCTP certified contractor to be a CALCTP-AT Contractor?
No, you do not have to be a CALCTP certified contractor for installations to be eligible to become a CALCTP-AT Contractor.

If I'm an electrical contractor and I don't have an acceptance technician on staff what do I do?

a. Before January 1st you can take the CALCTP-AT class and become a certified acceptance test contractor, and encourage current CALCTP

Site Search

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<< April 2014 >>

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Action Center

Member Login

Username:

electricians to take the CALCTP-AT technician course.

b. Per state law, after January 1, 2014 if the project impacts the spaces mentioned above, a building occupancy certificate will not be issued unless the control system(s) are acceptance tested. Thus, you would have to hire an outside acceptance technician to do this work.

Who can become an acceptance testing contractor?
Any state licensed C-10 contractor may become a CALCTP-AT contractor as long as they follow the requirements spelled out in the CALCTP-AT Handbook that will be available shortly on the www.calctp.org website.

How long is the CALCTP-AT Contractor Course?
The course is 4 hours.

Who can be an CALCTP Acceptance Test Technician?
Currently, we are focusing on the 2,000 Certified CALCTP electricians

How long is the CALCTP-AT Technical Course?
For those who hold a CALCTP installer technical certification, the CALCTP-AT Technical course is 16 hours in length and is a mix of lecture, labs, and a final exam.

(The CA LMCC has received a grant from the California State Employment Training Panel (ETP) to train electricians on advanced lighting controls. If your JATC is interested in receiving these funds for the Acceptance Testing training classes they must offer at least 24 hours of training. An optional 24 hour class is available to meet the reimbursement requirements.)

I was an acceptance technician before can I continue doing this work?
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Where do I go for more information?
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Download: CALCTP Flyer.pdf , CALCTP Contractor Brochure.pdf

Become a CALCTP Certified Electrician

Jun 23, 2011

CALCTP trains licensed C-10 electrical contractors and state certified general electricians in effective techniques to install, tune, commission and maintain advanced lighting control systems. Funding for the CALCTP Technical Course is supported by grants from the U.S. Department of Labor and the California Employer Training Panel. CALCTP is an equal opportunity program and auxiliary aids and services are available upon request to individuals with disabilities.

Why get Certified?

CALCTP will dramatically increase the demand for lighting controls in commercial buildings. For a building to be eligible for incentives, CALCTP partner utilities, which encompass over 90% of the California market, will require CALCTP-certified contractors and general electricians on each project. If you want to be part of this growing work opportunity, you must be certified.

What is Covered in the Course?

This course is divided into seven modules consisting of both lecture and lab activities. The module content is organized to answer the following about lighting controls: what they are, what they do, where they are used, and how they are installed. Each "lecture" contains one or more interactive components, including group discussions, device demonstrations and/ or calculation exercises.

The corresponding lab period, following the lecture, allows the attendee to directly apply what has been learned by installing the devices on electrical lab board, under the supervision of the CALCTP-certified instructor(s).

Become a CALCTP-AT Certified Technician

Dec 02, 2013

Password:

Login Forgot Your Login?

CALCTP California Advanced Lighting Controls Training Program

Acceptance Technicians

Effective January 1, 2014, the California Energy Commission adopted changes to the California building Efficiency Standards (Title 24, Parts 1 and 6) that require lighting controls and devices to be certified as properly installed and operational prior to issuance of occupancy permits. The California Advanced Lighting Controls Training Program Acceptance Technician (CALCTP-AT) certifies acceptance technician employees and technicians. All acceptance test technicians must be employed by an acceptance test employer that provides support as well as quality control.

CALCTP-AT Certified Acceptance Technician

Become a CALCTP-AT Technician or CALCTP-AT Contractor by:

1. Meeting the required state and program requirements which can be found in the CALCTP-AT Handbook (Coming Soon)
2. Submitting completed application, supporting documents, and appropriate fees; and
3. Completed required CALCTP-AT Course.

https://www.calctp.org/acceptance-technicians

UPCOMING CLASSES

Mar 26, 2014

CALCTP-AT (Acceptance Technician)

April 19, 2014 – May 3, 2014

Saturdays from 8:00am to 4:30pm.

April 2014	S	M	T	W	T	F	S
			1	2	3	4	5
Day Classes 8:00am-4:30pm	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30			

May 2014	S	M	T	W	T	F	S
					1	2	3
Day Classes 8:00am-4:30pm	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

BEFORE YOU CAN REGISTER FOR THIS CLASS, YOU MUST COMPLETE THE APPLICATION FOR CALCTP-AT TECHNICIAN FORM.

This form is available at the JATC office or on the CALCTP website (https://www.calctp.org/acceptance-technicians).
Please submit the completed application form to Rachele Salazar at the JATC office.
If you are an IBEW member, the $225.00 class fee is waived.

Registration Requirements:

- ✓ Must be CALCTP Certified
- ✓ Current Dues Receipt
- ✓ Valid State Certification Card
- ✓ Class Admissions slip from CALCTP
- ✓ $50.00 CASH or CHECK refundable deposit (NO CREDIT/DEBIT CARDS)

If you are interested in future classes, please click on the link below to complete the Class Interest form. Remember to select the CALCTP and/or CALCTP-AT class.

https://docs.google.com/spreadsheet

Ouellette, Mark

From: San Diego Gas & Electric <webmaster@sdge.messages3.com>
Sent: Friday, April 18, 2014 8:01 AM
To: Ouellette, Mark
Subject: Become a certified CALCTP contractor

This message contains graphics. If you do not see the graphics, click here to view.

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SDGE connected
A Sempra Energy utility

Title 24 Lighting Acceptance Test

4-Hour Certification Course

Become a certified CALCTP contractor

This 4-hour certification course is for electrical contractors and their employees. The course will review the amended Title 24 standards for non-residential acceptance testing, and will provide an overview of the requirements, training, and applications required under these new standards. You must have an approved application form obtained from the CALCTP-AT website to attend this seminar.

Register Today »

Course highlights

- Understand the purpose and scope of Title 24 installation and acceptance testing requirements
- Learn about the roles and responsibilities of acceptance test technicians and their employers
- Review the applicable codes and standards for commercial buildings
- Understand the certification and permitting process

- Examine the project type and lighting controls that are regulated
- Explore compliance documentation and forms

Please note that your completed exam is sent to CALCTP for scoring and results are not available at the Energy Innovation Center.

Speaker

Paul Bussell is a certified CALCTP Trainer, former lighting instructor at DISD and FIDM-Los Angeles, and presents seminars for Cuyumaca College Auxilliary, Mesa College, SDG&E, & the USGBC. Paul also develops on-line and site training offerings for the knowledge company LumenCulture.

Tuesday, May 6

(Seminar #8725)
Register

Time:

8 a.m. - 12 p.m.
(7:30 a.m. check-in and continental breakfast provided)

Location:

Energy Innovation Center
4760 Clairemont Mesa Blvd
San Diego, CA 92117
View map

It's easy to register:

Online: seminars.sdge.com
Email: seminars@sdge.com
Phone: 1-800-644-6133

Pre-registration is encouraged.
There is no fee to attend.

Forward to a Colleague

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Northern California IBEW, NECA and CALEIA reached agreement to establish a solar installer job classification. Working together, IBEW, NECA, and CALSEIA developed an agreement establishing a new journeyman solar installer classification for commercial and residential projects with hourly wage rates based on geographic areas plus family health and dental plan benefits. Additionally, a new two-year apprenticeship program for solar is being filed with the State's Division of Apprenticeship Standards for state recognition.

Advanced Lighting Control

Commercial buildings can save up to 40% in energy savings by simply turning lights off in unoccupied offices, conference rooms, and restrooms during business hours.

California Advanced Lighting Controls Training Program (CALCTP) partner utilities, which encompass over 90% of the California market, will require CALCTP-certified contractors and CALCTP-certified general electricians for installation. Bruce Gourley and Mike Smith are certified instructors for the CALCTP. The JATC will soon be offering classes for members to become CALCTP-certified.

From http://www.calctp.org/

The California Advanced Lighting Controls Training Program (CALCTP) is a statewide initiative aimed at increasing the use of lighting controls in commercial buildings and industrial facilities.

Through proper installation, advanced lighting controls improve energy efficiency in commercial facilities and save significant dollars. CALCTP will educate, train and certify licensed electrical contractors, and state certified general electricians in the proper design, installation and commissioning of advanced lighting control systems.

What are the prerequisites? Because the lecture and lab work moves along at a challenging pace, all participants must be equally prepared prior to enrollment. The prerequisite studies are on the Lighting Controls Association website—modules EE101, EE102, EE103, and EE201 (Approximately 12 hours). These courses can be found at http://www.aboutlightingcontrols.org/Education_Express/accr_orgs.php. For enrollment in CALCTP, applicants must present a certificate of completion for online study to enroll in the CALCTP course.

What is covered in the course? This course is divided into seven modules consisting of both lecture and lab activities. The module content is organized to answer the following about lighting controls: what they are, what they do, where they are used, and how they are installed. Each "lecture" contains one or more interactive components, including group discussions, device demonstrations and/ or calculation exercises.

On-line Training

The Statewide JATC has partnered with 360Training.com to bring affordable online electrical continuing education courses to IBEW members. They are pleased to announce that the site is now ready to access. Earn CEUs for State certification and recertification. Over fifty courses are available on a wide range of topics, including OSHA 10 hour and 30 hour training. Easy on-line training you can use wherever and whenever you desire. Register for individual courses or purchase a package for added savings. A link to http://ecertify.360training.com has been added to ibewlu180.org under "links".

Business Agent

Yet another election is upon us. But this one may very well be the most important election in our history. Let me put some spin on the spin - how about boldly labeling this as possibly the **last** most important election in our history?

Discouraged about elections in general is a problem for the voter, and encouragement required for the unregistered and nonvoter is a disaster. While now is not the time to blow

LCA Lighting Controls Association

Education EXPRESS

My Classroom | Courses | Feedback

Education Express & Accrediting Organizations

The Lighting Controls Association's Education Express learning modules are accredited/registered by these organizations:

National Council on Qualifications for the Lighting Professions (NCQLP). Education Express courses are registered with the NCQLP for its LC (Lighting Certified) Program, which involves self-reporting of Lighting Education Units (LEUs). For more information on the NCQLP and their certification program, please visit the NCQLP website.

California Advanced Lighting Controls Training Program (CALCTP). CALCTP trains licensed C-10 electrical contractors and state certified general electricians in effective techniques to install, tune, commission and maintain advanced lighting control systems. For a building to be eligible for incentives, CALCTP partner utilities, which encompass over 90% of the California market, will require CALCTP-certified contractors and general electricians on each project.

Several Lighting Controls Association Education Express courses are required as prerequisites to receive CALCTP live training, including *EE101: Introduction to Lighting Control*, *EE102: Switching Control*, *EE103: Dimming Control*, and *EE201: Daylight Harvesting*. All certificates available for these courses, totaling 120 CALCTP points, must be collected and presented to CALCTP as proof of attendance.

Other. CEU certificates are provided for students for other purposes. Note that Education Express courses are not officially registered with state licensing boards.

RETURN TO WELCOME PAGE

Tri-County Electrical Joint Apprenticeship and Training Committee

Classes

Refer to Calendar for class dates and times.

Sign up for classes by calling the Training Center at (831) 633-3063 or sending an email.

NJATC Tech Math Class

Journeyman Continuing Education Classes Offered Through Our Training Center

California Advanced Lighting Control Training Program (CALCTP) is a 50 hour class (not including the 10-12 hours of online coursework). For a limited time, the Montery Bay Area LMCC will give students $125 for the successful completion of the class and passing the final exam.

The class will be open only to those who have completed their online coursework at:
bit.ly/IBEW234CALCTP

2011 NEC Significant Changes class is scheduled for the second Tuesday of each month. This is a drop-in style class. Attend as many classes as you have time for and earn 3 hours of Continueing Education hours.

Electric Vehicle Infrastructure Training Program I (EVITP I) is a 24 hour class. For a limited time, the Monterey Bay Area LMCC will give students $125 for the successful completion of the class.

Electric Vehicle Infrastructure Training Program II (EVITP II) is a 24 hour class. For a limited time, the Monterey Bay Area LMCC will give students $125 for the successful completion of the class.

OSHA-10

OSHA-30

CPR/First Aid

EPS-I, II, and III Foreman Supervision class

Inside Blended Learning (Online Courses)
Go to www.njatc.org and click on the "Inside Blended Learning" tab.
Under "NOT YET REGISTERED?" click on the blue "REGISTER" button.

Select "Tri-County Electrical JATC" for Training Location.
Call for password (831) 633-3063.

Sign up for classes by calling the Training Center at (831) 633-3063 or sending an email.

Tri-County Electrical Joint Apprenticeship and Training Committee
Santa Cruz — San Benito — Monterey Counties IBEW Union, Local 234 Educational & Training Fund 501(C)3
10300 Merritt Street • Castroville, CA 95012 • (831) 633-3063 • (831) 633-3068 fax

Login

Website by Steve Piercy

Advanced Transportation Technology & Energy

Location:

Community Ed. Building
14000 Fruitvale Avenue
Saratoga, CA 95070

atte@westvalley.edu

Home Page
About ATTE
Training Programs
Media Library
Consulting Services
K-12 Resources
Partnerships
Ecoprenuer
En Español
ATTE Blog

Staff

David Esmaili

What's New!

West Valley College Campus Center LEED Certification

Training Programs

Below are descriptions and available classes for ATTE sponsored programs. For F
detailed descriptions of the classes in Spanish please see our section in En Espai

Click here for information on LEED GA Prep Lunch & Learn scheduled for 2/22/13

K-12 Resources

Energy Management Program

Geospatial Technology/Geographic Information Systems (GIS)

Solar

Pavement Management

Energy Efficiency and LEED

Introduction to Renewable Energy

Alternative Fuel and Vehicle Technology

California Advanced Lighting Control Training Program (CALCTP)

CALCTP is a statewide initiative aimed at increasing the use of lighting controls ir
educate, train and certify state-certified general electricians in the proper design,
advanced lighting control systems.

OSHA 10

Leadership in Energy & Environmental Design (LEED)

Green Information Technology (IT)

Google SketchUp for Solar Design & Sustainable Architecture

STATE OF CALIFORNIA BUILDING CODE ACCEPTANCE TESTING CONTRACTOR CERTIFICATION CLASS

OCTOBER 9, 2013
8:30 AM – 12:30 PM

Beginning January 1, 2014, the California Building Code Energy Efficiency section, Title 24, will require building owners to install comprehensive lighting controls on all new commercial construction, most retrofits and TI's. State regulations will also mandate that building owners have state certified testing of those lighting control systems - called Acceptance Testing.

NECA contractors who become certified lighting Acceptance Testing contractors will be able to self-perform acceptance tests on their own lighting controls jobs. Contractors who are certified will not have to hire outside acceptance testers.

To be best prepared to take advantage of the business opportunities presented by the newly updated Title 24, please join us for a four (4) hour contractor lighting controls Acceptance Testing training and certification class.

Please note the following:

- Class materials will be provided in PDF format via flash drive. **Each participant must bring a laptop computer with a USB port to class in order to view the material.** The class session will conclude with a certification exam.
- Contractors with multiple office locations will need at least one management person certified for each location that conducts testing.
- This class only covers the required management training component for certification. You will soon receive information regarding the required electrician training to be conducted by the ETI.

WHO MAY ATTEND

NECA contractors and/or their staff (from any NECA chapter) are eligible for certification

WHERE

Pasadena

CLASS FEE

$45 per person

TO REGISTER

Contact Bart Dickson at bart@laneca.org. Please provide the name of your company and all participants.

LOS ANGELES COUNTY NECA NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION CHAPTER

Ouellette, Mark

[redacted]

You are receiving this email, as you have expressed an interest in the California Advanced Lighting Controls Training Program (CALCTP).

Below is a list of 3 different CALCTP Courses that SCE's Energy Education Center in Irwindale (EEC-I) provide, along with the intended audience, prerequisite information, and instructions on how to register. If you have any questions, please feel free to call us at 626-812-7537.

1. 10 Hour CALCTP Systems Class *** For C10 Contractors ***

Mid Management: CALCTP Systems Course Completion and Certification - Intended for contractor staff who do not hold a current state certification. Systems Course is needed for contractor certification. Prerequisite reading and a 10-hour on-line training course required.

Dates and Times: 4:00 pm - 9:00 pm

Tuesday, April 22, 2014
Thursday, April 24, 2014

Prerequisites

Before one can register, the following must be completed:

1. Send a copy of the company's C10 Contractor's license to Bonnie Madera via email @ EEC-iRegistration@sce.com or fax # 626-812-7513 "Attention Bonnie Madera".

2. Each person planning to register needs to go to http://www.aboutlightingcontrols.org/Education_Express/accr_orgs.php ... there are courses listed in paragraph 4 on that web page that must be completed prior to enrollment. **12 certificates of completion** must be emailed to EEC-IRegistration@sce.com or faxed to 626-812-7513, "Attention Bonnie Madera." *Please send all 12 certificates in one email.*

2. 50 Hour CALCTP General Electrician Workshop ***

For State of California Certified General Electricians Only, No Exceptions.

Dates and Times: 4:00 pm - 9:00 pm

Tuesday, March 4, 2014	Thursday, March 6, 2014
Tuesday, March 11, 2014	Thursday, March 13, 2014
Tuesday, March 18, 2014	Thursday, March 20, 2014
Tuesday, March 25, 2014	Thursday, March 27, 2014
Tuesday, April 1, 2014	Thursday, April 3, 2014

Prerequisites

Before one can register, the following must be completed:

1. Send a copy of the individual's State of California General Electrician Certification Card to Bonnie Madera via email @ EEC-iRegistration@sce.com or fax # 626-812-7513 "Attention Bonnie Madera".
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3. CALCTP Business Development Class *** *(None are Currently Scheduled at this time)*

Top Management: CALCTP Business Development Seminar Completion - This 8-hour session is intended for owners and top-level executives, focusing on marketing, sales, finance, and creating an advanced lighting controls brand for your company. No prerequisite training required.

Please see attached documents for an overview of CALCTP, requirements for becoming a CALCTP certified contractor, and a flyer for the 50 Hour CALCTP General Electricians Workshop.

Best Regards,

Energy Education Center - Irwindale
Registration Desk
Tel (626) 812-7537
Fax (626) 812-7513
PAX 42537
EEC-iRegistration@sce.com
www.sce.com/energycenters
6090 N. Irwindale Ave
Irwindale, CA 91702
Follow SCE: LinkedIn | Twitter | Facebook

STATE OF CALIFORNIA BUILDING CODE
ACCEPTANCE TESTING
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LOS ANGELES COUNTY NECA NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION CHAPTER

LA/NECA • 100 E. Corson Street, Ste 410, Pasadena, CA 91103 • 626-792-6322 • www.laneca.org

Acceptance Technician Frequently Asked Questions

What is behind the new lighting controls and acceptance testing?
AB32 signed by then Governor Schwarzenegger in 2006 set out an ambitious plan for California to reduce its carbon footprint by reducing greenhouse gas emissions by 30% by 2020. In response to AB32, the California Public Utilities Commission in 2008 published, and updated in 2011, the California Long-term Energy Efficiency Strategic Plan (Strategic Plan) which set bold market transformation energy efficiency goals for the state that has led to updates to the energy efficiency sections of the California state building code – Title 24.

Who is requiring acceptance testing?
The California Energy Commission under Title 24 requires that comprehensive lighting controls be acceptance tested. The 2013 code greatly expands the lighting control requirements for commercial, non-residential buildings.

What is Acceptance Testing?
Acceptance testing is one part of a multi-stage compliance program that ensures newly constructed buildings and new construction in existing buildings conforms to energy-efficiency standards contained in Title 24, Part 6 of the California Code of Regulations (CCR). Acceptance testing consists of a series of construction inspections and functional tests for different types of mechanical and electrical systems. These inspections and tests ensure that applicable systems are installed and operate correctly.

Why This Rule, and Why Now?
Acceptance testing has been around since 2005, but only for new buildings and retrofits impacting over 50% of the existing luminaires or ballasts. The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) require more acceptance testing and establish a criteria for what skills a state certified acceptance technician needs to have.

What spaces will be affected?
The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) states that the following commercial buildings will have to comply with new acceptance testing requirements:

1) All newly constructed commercial buildings (no previous occupancy)
2) Any addition
3) Any alteration that adds new equipment to an existing space (retrofit) that modifies more than 10% of the existing luminaires or ballasts, or any retrofit of < 40 ballasts or luminaires.

What has to be done for a space to be acceptance tested?
While the acceptance test process is a separate and independent process, Title 24 regulations now require that a Commissioning Report be completed and provided to the Building Owner before a building occupancy certificate can be provided. A lighting control "acceptance test" report is required as part of this larger commissioning report.

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Yes, as long as you are a state certified acceptance testing contractor and the work is performed only by a state licensed acceptance technician. For CALCTP we are identifying these as CALCTP-**AT** or CALCTP acceptance testing contractors.

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No, you do not have to be a CALCTP certified contractor for installations to be eligible to become a CALCTP-AT Contractor.

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b. Per state law, after January 1, 2014 if the project impacts the spaces mentioned above, a building occupancy certificate will not be issued unless the control system(s) are acceptance tested. Thus, you would have to hire an outside acceptance technician to do this work.

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No, because of inconsistencies in the quality of acceptance testing, the 2013 Building Energy Efficiency Standards outlined new requirements for the skills and training that is needed to become an acceptance test technician or an acceptance test contractor. These State of California rules require that an individual must be licensed by a state certified acceptance technician provider. The rulemaking did establish CALCTP as the first (and currently the only) pre-approved interim provider for lighting controls acceptance technicians.

Where do I go for more information?
You can receive more information on the CALCTP website at: www.calctp.org/accetpance-technicians or by emailing CALCTP at info@calctp.org.

7-23-13

APPLICATION FOR:
CALCTP-AT TECHNICIAN CERTIFICATION

Candidate Information: Both candidate and employment information is required. Please fill in all information. Your application will not be considered unless all requested information is completed, signed, and dated. An email address is required in order to send admission information and up-to-date program information.

Last Name:	**First Name:**	**Middle:**
Current Mailing Address: Street Address or P.O. Box:		
City:	**State:**	**Zip Code:**	**Country:**
Phone Number: ( )	**E-Mail Address** (required):	

Candidate Work Experience: Participants are required to demonstrate at least 3 years of work experience. If you have worked for your current employer for less than 3 years, provide additional employment information. (*If self-employed, this section must still be completed and you must provide at least one letter of work verification from a customer—see sample)

Business Name:		
Current Business Mailing Address: Street Address or P.O. Box:		
City:	**State:**	**Zip Code:**
Company Web Site:		
Contact Person to Verify Employment:		
Years Employed with Company:		
Phone:	**Email:**	

FEES (Check one)	
☐ $125 Application Fee (CALCTP Certified Prior to June 2013—Does not include site training fee if applicable)	☐ $225 Application Fee (electronic submission—Does not include site training fee if applicable)
You can Also Submit On-line Fees at: www.calctp.org	

I, the undersigned, understand that I will only conduct an acceptance test for a CALCTP-AT contractor. If I am self-employed or independent contractor, I agree to participate in CALCTP-AT quality assurance program and pay all associated fees if not covered by my employer. Furthermore, I understand that until I sign an agreement with CALCTP upon successful passage of CALCTP-AT course I will not be a licensed CALCTP-AT Technician.

By earning a CALCTP-AT credential, I consent to give CALCTP permission to respond to consumer public queries about my certification status and make available, via a search tool on www.calctp.org, certain information including: Full Name, City/State of Employment, Employer, Certification Number, contact information, and Expiration Dates.

I understand that CALCTP may, at its discretion, post or remove the consumer public information on www.calctp.org. Failure on my part to pay annual maintenance fees may lead to me becoming an uncertified CALCTP-AT Technician.

I understand that it is my responsibility to notify CALCTP of all changes to my personal information such as but not limited too: my address, employer/ employment. I also understand it is my responsibility to verify the changes have been updated after notice. I understand that CALCTP reserves the right to suspend an individual's certification credential when the holder does not notify CALCTP of said changes.

I certify to the best of my knowledge that all information in this application and the accompanying documentation is true and correct.

Signature _____ **Date** _____

Print Name _____

Submit Application to: Info@calctp.org or fax to: CALCTP-AT at (213) 312-1799

SAMPLE LETTER OF WORK VERIFICATION

(Provide on Company letterhead that contains the Customer's address)

Date **(Fill in Month/Day/Year)**

ICF International
Attention: Leslie Hughes Nardoni
601 W. 5th Street, Suite 900
Los Angeles, CA 90071

To Whom It May Concern:

This letter is to verify the employment of **John Doe**, who conducted lighting controls work from Date until Date. **John** worked full time employee and his duties included:

- XXXXXX
- XXXXXXXXXX
- XXXXXXXXXX
- XXXXXXXXXX
- XXXXXXXXXX

Please contact me at (000) 555-5555, if you have any questions.

Sincerely,
James Buck **(Name of Supervisor)**
Owner **(Position/Title)**

August 2013

CALCTP

Acceptance Technician

CALCTP California Advanced Lighting Controls Training Program

Topics of Discussion

- What is an Acceptance Technician Certificate?
- CALCTP-AT Levels
- Course Structure
- Eligibility
- Next Steps
- Questions

CALCTP California Advanced Lighting Controls Training Program

What is behind the new lighting controls and acceptance testing?

- AB32 signed by then Governor Schwarzenegger in 2006 set out an ambitious plan for California to reduce its carbon footprint by reducing greenhouse gas emissions by 30% by 2020.
- In response to AB32, the California Public Utilities Commission in 2008 published, and updated in 2011, the California Long-term Energy Efficiency Strategic Plan (Strategic Plan) which set bold market transformation energy efficiency goals for the state that has led to updates to the energy efficiency sections of the California state building code – Title 24.

Who is requiring acceptance testing?

- The California Energy Commission under Title 24 requires that comprehensive lighting controls be acceptance tested as a step in the certificate of occupancy process.
- The 2013 code greatly expands the lighting control requirements for commercial, non-residential buildings.

Why have an Acceptance Technician Certificate?

- Acceptance testing has been around since 2005. The Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) 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 may be approved for occupancy.
- Studies and stakeholder comments indicate that acceptance testing occurring in the field is currently inadequate.
- The CEC determined that because of inconsistent levels of training, Field Technicians as a whole are not ensuring that the installed systems are delivering the energy efficiencies and monetary savings expected by building owners.
- Thus, new regulation was developed and implemented starting in December 2012 create an lighting controls acceptance technician certificate.

Why is CALCTP Involved in Acceptance Testing?

- In the 2012 regulation, CALCTP was pre-approved as an Interim Acceptance Technician Certification Provider provided that CALCTP upon submittal of an application.
- The only one identified at the time by the state.
- Full status is dependent on training and certifying 300 participants
- Until full status is approved, anybody can self-certify or identify an acceptance technician.

Does Title 24 Have Any Requirements on Installation?

- No, at present there are no requirements around certification for installations or companies.
- There currently are no incentives by any of the Investor Owned Utilities to use CALCTP certified contractors or electricians.
- There is increased interest by the CPUC to have such incentives but none have been established to date.
- SMUD does have an incentive.

Two levels of CALCTP-AT Certification

- CALCTP-AT Certified Company
  - Have at least One Mid or Senior Manager per office complete the CALCTP-AT Contractor Course (4 hrs)
  - Does not have to be a CALCTP Installer Certified Company
  - Submit application and pay fees to CALCTP
  - Sign agreement with 3-party-ICF International-for quality assurance
- CALCTP-AT Certified Technician
  - Complete pre-requisites and submit application and fees
  - Pass 16 hour course

CALCTP-AT Technician Process

- Step 1
  - Complete and submit application to CALCTP
- Step 2
  - Receive admission slip to one of 32 independent training centers
- Step 3
  - Contact site regarding training dates/times and any applicable fees
- Step 4
  - Complete course, receive certificate and be listed on CALCTP website

How is the CALCTP-AT Technical Course Structured

- 16-hour course that includes:
  - Lighting controls acceptance testing – Introduction and Installation Requirements
  - Lighting controls acceptance testing – Acceptance test procedures
  - Exercises and Laboratory sessions
  - Review and exam
- Final Exam
  - 60 questions of which only 50 are graded.

Who is Eligible to Take the CALCTP-AT

- Per CEC, the following are eligible to become CALCTP-AT Technician Certified as long as they meet the providers requirements:
  - (1) electrical contractors,
  - (2) electricians,
  - (3) professional engineers,
  - (3) controls installation and start-up contractors and
  - (4) certified commissioning professionals.
- Current focus is on the 2,200 plus individuals that are currently CALCTP certified.
  - Need to train 300 to get full CALCTP-AT Provider Status
  - Reduction in application fee for those CALCTP certified
    - $125 for initial year; $225 for those not certified

Contact Information

- CALCTP
  - Mark Ouellette
  - mark.ouellette@icfi.com or (213) 312-1794
  - Mobile: (909) 362-7098
  - 601 W. 5th Street, Suite 900
  - Los Angeles, CA 90071

SANTA CLARA COUNTY EVENT

Date: 2/26/2014

Address: Santa Clara JATC
908 Bern Court
San Jose, CA 95112

Municipalities Severed:
San Jose City
Milpitas
Palo Alto
Santa Clara City
Sunnyvale
Santa Clara County
Cupertino
Los Gatos

Attendees: 50

SAN MATEO COUNTY EVENT

Date: 3/20/2014

Address: San Mateo JATC
625 Industrial Road,
San Carlos, CA 94070

Municipalities Severed:
San Mateo County
San Bruno
San Carlos
Redwood City
Foster City
San Francisco County
San Francisco City
Daly City
East Palo Alto
Palo Alto
South San Francisco

Attendees: 23

INLAND EMPIRE EVENT

Date: 3/24/2014

Address: San Bernardino Electrical JATC
1855 Business Center Drive
San Bernardino, CA 92123

Municipalities Severed:
Rancho Cucamonga
Rialto
Victorville
Imperial City
Calexico City
Jurupa Valley
Temecula
Hemet
Riverside County
San Bernardino County

Attendees: 24

SACRAMENTO COUNTY EVENT

Date: 4/8/2014

Address: Sacramento JATC
2836 El Centro Road
Sacramento CA, 95833

Municipalities Severed:
Elk Grove
Fair Oaks
Sacramento County
Sacramento City
Citrus Heights
Davis
Yuva City
Galt City
Roseville

Attendees: 20

ALAMEDA COUNTY EVENT

Date: 4/22/2014

Address: Alamdea Electrical JATC
14600 Catalina Street
San Leandro, CA 95477

Municipalities Severed:

Lawrence Berkeley Lab
City of Richmond
City of El Cerrito
Oakland
UC Berkeley
Hayward
Livermore
Foster City

Attendees: 40

LOS ANGELES AND SURROUNDING CITIES EVENT

Date: 4/23/2014

Address: Electrical Training Institute
6023 South Garfield Avenue
Commerce, CA 90040

Invited Municipalities:
Los Angeles City / County and Surrounding Municipalities

Expected Attendees: 110

NORTH BAY EVENT

Date: 5/8/2014

Address: Redwood Empire Electrical JATC
1726 Corby Ave
Santa Rosa, CA 95407

Invited Municipalities:

Marin County	Windsor
San Rafael	Sebastopol
Novato	Benicia
Mill Valley	Fairfield
San Anselmo	Rio Vista
Larkspur	Vallejo
Corte Madera	Vacaville
Fairfax	Sonoma City
Sausalito	Santa Rosa
Petaluma	Rohnert Park

Expected Attendees: 25 – 30

FRESNO EVENT

Date: 5/15/2014

Address: Fresno Electrical JATC
5420 E. Hedges
Fresno, CA 93727

Invited Municipalities:

Fresno County	Kerman
Fresno City	Kingsburg
Clovis	Mendota
Coalinga	Parlier
Reedley	Madera County
Sanger	Chowchilla
Selma	Tulare County
Kings County	Dinuba
Hanford	Lindsay
Lemoore	Visalia

Expected Attendees: 50

SAN LUIS OBISPO EVENT

Date: 5/22/2014

Address: IBEW Union Hall 639
6363 Edna Road
San Luis Obispo, CA 93401

Invited Municipalities:
Arroyo Grande
Atascadero
Grover Beach
Morro Bay
Paso Robles
Pismo Beach
San Luis Obispo City
San Luis Obispo County

Expected Attendees: 20 – 25

SANTA BARBARA EVENT

Date: 5/29/2014

Address: Union Hall Local 413
100 Thomas Rd
Buellton, CA 93427

Invited Municipalities:
Santa Barbara County and Local Municipalities

Expected Attendees: 18 – 25

TRI-COUNTY EVENT

Date: 6/3/2014

Address: Tri-county Electrical JATC
10300 Merritt Street
Castroville, CA 95012

Invited Municipalities:
Monterey County and Local Municipalities
Santa Cruz and Local Municipalities

Expected Attendees: 20 – 25

VENTURA COUNTY EVENT

Date: 6/12/2014

Address: Ventura City Hall
Community Meeting Room
501 Poli Street
Ventura, CA 930001

Invited Municipalities:
Ventura County and Local Municipalities

Expected Attendees: 20 – 25

Stockton / Modesto EVENT

Date: 6/17/2014

Address: Stockton JATC

Invited Municipalities:
Regional Stockton and Modesto area municipalities

Expected Attendees: 20 – 25

San Francisco City Title 24 Event

Date: 6/18/2014

Address:
IBEW Union Hall Local 6
55 Fillmore Street
San Francisco, CA 94117

Invited Municipalities:
San Francisco City and County Building Departments

Expected Attendees: 40 – 50

APPLICATION FOR:
CALCTP-AT CONTRACTOR CERTIFICATION

Contractor Information: Please fill in all information. Your application will not be considered unless all requested information is completed, signed, and dated. An email address is required in order to send admission information and up-to-date program information.

Company Legal Name:			
Company Mailing Address: Street Address or P.O. Box:			
Company Website:			
Contractor Contact Name:			
Names of Individuals Requesting CALCTP-AT Contractor Course:			
City:	**State:**	**Zip Code:**	**Country:**
Phone Number: ( )		**E-Mail Address of Contact** (required):	
Additional Office Location(s)—Address City, State, and Zip:			

FEES (Check one)	
☐ $350 Initial Application for One Office Contractors (CALCTP Certified Prior to June 2013—Does not include site training fee if applicable)	☐ $500 Initial Application for One Office Contractors
☐ $525 Initial Application for Multi-Office Contractors (CALCTP Certified Prior to June 2013—Does not include site training fee if applicable)	☐ $750 Initial Application for One Office Contractors
You can Submit Fees On-Line at: www.calctp.org	

I, the undersigned as the legal representative for company aforementioned , understand that I will only use CALCTP-AT Certified Technicians to conduct acceptance tests. I also understand that I will not be a CALCTP-AT Licensed Contractor without agreeing to the quality assurance program administered by a third party and signing an agreement with this third party.

By earning a CALCTP-AT Contractor credential, I consent to give CALCTP permission to respond to consumer public queries about my certification status and make available, via a search tool on www.calctp.org, certain information including: Company Legal Name, City/State, contact information, and Expiration Dates.

I understand that CALCTP may, at its discretion, post or remove the consumer public information on www.calctp.org. Failure on my part to pay quality assurance or other maintenance fees may lead to my company becoming uncertified as a CALCTP-AT Contractor.

I understand that it is my responsibility to notify CALCTP of all changes to company information such as but not limited too: state licensing and bonding changes, address, and contact information. I also understand it is my responsibility to verify the changes have been updated after notice. I understand that CALCTP reserves the right to suspend certification credential when the holder does not notify CALCTP of said changes.

I certify to the best of my knowledge that all information in this application and the accompanying documentation is true and correct.

Signature _____ **Date** _____

Of Behalf of: _____

Print Name _____

Submit Application to: Info@calctp.org or fax to: CALCTP-AT at (213) 312-1799

STATE OF CALIFORNIA TITLE 24 LIGHTING CONTROLS ACCEPTANCE TESTING OVERVIEW

February, 2014

- Technician Skills & Responsibilities
- Compliance Documentation
- Installation Requirements
- Acceptance Test Procedures

Training Program

Version 5.0

Images Courtesy of IBEW/NECA, California Lighting Technology Center, UC Davis, WattStopper

CALCTP

Impact of California's Energy Codes and Standards

The California Building Energy Efficiency and Appliance Efficiency standards have saved Californians more than $74 billion in electricity costs since 1975.

California's per capita electricity use is about 40% lower than the U.S. national average.

These standards conserve electricity and natural gas, and reduce California's need to build more power generation facilities. They also help protect the environment, and enhance U.S. energy independence.

What's Changing and When?

- The California Building Code Energy Efficiency section, Title 24, is updated on a 3 year cycle
- The 2013 update takes effect July 1, 2014
- New state regulations include greater efficiency standards for lighting and other systems
- State certified testing of these systems, called Acceptance Testing (AT), is mandated

CALIFORNIA T24 TITLE 24

Images Courtesy of LUTRON (bottom left and right)

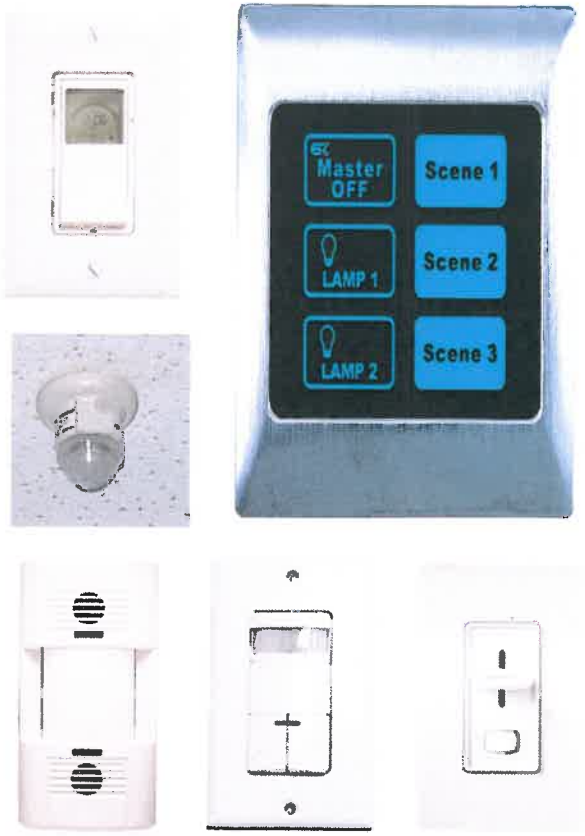
What Type of Project is Regulated?

The new building codes and standards regulate in commercial, non-residential, facilities

- Newly constructed buildings
- Alterations / Tenant Improvements (TIs)
- Additions
- Retrofits

What Lighting Controls Will be Regulated?

- Any self-contained lighting control
- Automatic Time-switch controls
- Daylight controls and photo controls
- Dimmers
- Occupant sensing devices
- More detail later



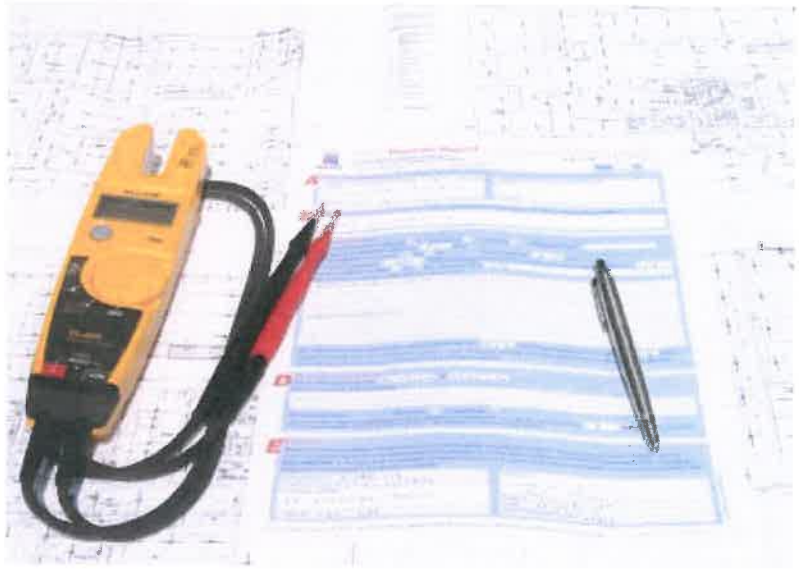
Images Courtesy of LUTRON (bottom left and right)

Acceptance Testing Overview

- One piece of a multi-stage compliance program
- **Required of Building Owner** for occupancy - **before the building inspector can sign off**
- Verifies installation requirements are met
- Ensures installed equipment and systems operate properly
- Conducted by certified field technicians. If a contractor is not certified they will have to hire a certified contractor to verify their work
- Required by the State of California

Buildings and Systems

- Acceptance tests (**AT**) must be conducted on certain mechanical and lighting systems
- Required for all newly constructed commercial buildings
- Required on all additions



✓ **Required for all retrofits, renovations and tenant improvements >10% of the space**

Lighting Controls Acceptance Tests

CONTROLS

Required of Building Owners Starting July 1, 2014 on:

1) Automatic Daylighting Controls
2) Automatic Time Switch Controls
3) Occupancy Sensors
4) Outdoor Lighting Shut-off Controls
5) Outdoor Motion Sensors
6) **Automated Demand Response Controls (ADR) Mandatory for Alterations Over 50% of a Space**

Certified Lighting Controls Acceptance Test Technician

- The California Energy Commission (CEC) / Title 24 requires Certification to conduct lighting controls acceptance testing in California
- The CEC also requires employers of acceptance testers to be certified
- **Contractors may self-certify if BOTH:**

- Employer is certified to perform AT, and

- Field Test Technician is certified to perform AT

- Otherwise Contractors will need an outside acceptance tester to certify their lighting controls work

Background On Lighting Controls Acceptance Test Training

- Must include both theoretical and hands-on training
- Limited to participants with at least 3 years of verifiable professional lighting controls experience
- Written and practical exams required for certification
- CALCTP is a state approved **AT** certification provider
- Curriculum developed by UC Davis California Lighting Technology Center (CLTC) under the supervision of the CA Energy Commission

Lighting Controls Acceptance Test Training Classes & Certification

Two pathways for Acceptance Testing Certification:

- The Acceptance Testing Technical Training Class is 16 - 20 hours for those who have a CALCTP-I installer certificate. There is a pool of over 2,200 to draw from.
- UC Davis has developed a course for non-CALCTP-I electricians, engineers, commissioning agents, lighting designers, and lighting manufacturing representatives. That class is 32-36 hours.

What Experience is Required to Become a Lighting Controls Acceptance Test Technician?

- Three Years of documented experience in lighting controls installation, engineering and/or commissioning.

For Contractors?

- A current California contractor's license
- The Contractor class is 6 hours.

How To Authenticate AT Certification?

1. Go to www.CALCTP.org (No password needed)
2. Click on "Acceptance Technicians"

CONTROLS

CALCTP California Advanced Lighting Controls Training Program

Username or e-ma

Passwor

Home | Installer Contractor | Become Certified | Resources | What is CALCTP? | Acceptance Te

Acceptance Technicians

Effective January 1, 2014, the California Energy Commission adopted changes to the California building Efficiency Standards (Title 24, Parts 1 and 6) that require lighting controls and devices to be certified as properly installed and operational, prior to issuance of occupancy permits. The California Advanced Lighting Controls Training Program-Acceptance Technician (CALCTP-AT) certifies acceptance technician employers and technicians. All acceptance test technicians must be employed by an acceptance test employer that provides support as well as quality control.

Candidates interested in applying must submit a CALCTP-AT Technician or CALCTP-AT Employer application and pay the required fees outlined below.

CALCTP-AT Certified Employers

CALCTP-AT Employer
ADEC, Inc.
Advance Lighting and Electric
Advanced Lighting and Electrical, Inc.
Caal Electrical Contractors, Inc.
Collins Electrical Company Inc.

next ›

3.

All lighting controls acceptance testing must be contracted with a CALCTP-AT Employer. If you need to see a detailed list of CALCTP-AT Employers and CALCTP-AT Technicians Click Here.

4. Field Technician List

Collins Electrical Company Inc.	TC-A813056	Brian	McKay	Fresno	93706	(559) 454-8164
DRE Power and Cabling Contractors, Inc.	TC-A813025	David	Hoover	Orange	92867	(714) 279-9590
Executive Lighting Services				Anaheim	92806	(714) 632-5353
Independent	TC-A813001	Kathleen	Barber	San Carlos	94070	
Independent	TC-A813005	Michael	Scalzo	Santa Clarita	91390	
Independent	TC-A813006	Stephen	Slovacek	Aromas	95004	
Independent	TC-A813004	Geoffrey	Gatt	South San Francisco	94080	
Independent	TC-A813002	Paul	Bussell	Encinitas	92024	
Independent	TC-A813013	Edward	Stark	Oceanside	92054	
Independent	TC-A813012	Michael	Smith	Vacaville	95688	
Independent	TC-A813011	Lloyd	Diehl	Clayton	94517	

What Forms Are Required to Approve a Certificate of Occupancy?

Who and What is CALCTP?

CONTROLS

State of California Title 24 Lighting Controls Acceptance Testing Regulations

Thank you.

PG&E Energy Efficiency Classes
Class Details & Registration

Program Title	**CALCTP AT Employers Lighting Acceptance Test Technician Employer Certification** Course [Register]
Time, Location	May 16 (Friday, 11:00 am to 6:00 pm) San Francisco--PEC
Also Offered	N/a
Description	This 6-hour class is for employers, such as C-10's, Architectural, and Engineering Firms, who have completed the CALCTP-AT employer application process at www.calctp.org. Content covers an overview of Title 24 Part 6's. 1) lighting controls requiring testing and verification, 2) support, hiring, documentation, and auditing procedures of certified acceptance test technicians and permitted projects seeking occupancy, and 3) a 1-hour exam thereon. A copy of your paid employer application submission from CALCTP will be needed to enter the classroom. Note: Your completed 1-hour exam is sent to CALCTP for scoring -- no results are available at the energy center **Pre-Requisite**: see below Application requirement. **Application**: Participants must submit an application prior to the training and have a valid admissions slip from CALCTP to attend. The link is here: www.calctp.org/acceptance-technicians IMPORTANT NOTE: A copy of your paid employer application submission from CALCTP will be needed to enter the classroom
Audience Level	
Agenda	
Instructor (s)	**Barbara Cox** Ms Cox has worked with a wide spectrum of industry stakeholders, policy advocates, state and federal agencies to develop and implement demand driven training programs, including the California Advanced Lighting Controls Training Program (CALCTP), to elevate technical competency standards within the electrical industry. She prepared and implemented workforce development programs with the US Department of Labor, US Department of Energy, the California Energy Commission, and the California Employment Development Department in her capacity as the Director of Sustainable Energy Grants for the California Labor Management Cooperation Committee Ms Cox earned a Baccalaureate degree in Behavioral Science from San Jose State University. She is a state certified General Electrician (commercial & industrial electrician) and nationally credentialed, apprenticeship-trained Journeyman Inside Wireman
Resources	N/A
Cost	No fee for this program for California businesses and residents
Credits	N/A

Registration Form

Bold Fields are Required

Please avoid registering multiple people under a single email address. Doing so may cause a failure to register.

Your Name: (First, MI, Last)	
Your Job Title:	
Your Company Name:	
Street Address 1:	
Street Address 2:	

City

State: California

Zip

Phone:
(area code + number)

Cell Phone
(area code + number)

Fax:
(area code + number)

E-mail address:

* AIA Member Number
(see below)

NOTE: If you have already submitted the information below in a previous form we have your request and you do not need to check the boxes and radio buttons again. Simply skip the items below and click "Send Form".

○ Please **DO NOT** send me e-mail messages about energy efficiency classes

○ Please send me occasional e-mails about classes on the following checked topics

☐ Architecture

☐ Alternative Energy (solar, wind, etc.)

☐ HVAC

☐ Data Collection & Measurement

☐ Lighting

☐ Residential Energy Efficiency

☐ Commercial Refrigeration

Send Form

***If you are not a member of the AIA (American Institute of Architects), leave this field blank.** If you are a member of the AIA and want us to report these continuing education credits please include your AIA member number. After the class we will report attendees' names and member numbers to the AIA.

REJATC

REDWOOD EMPIRE JOINT APPRENTICESHIP & TRAINING COMMITTEE

May 01, 2014

Welcome

- Home
- Info on Apprenticeship Program & Process
- Office Locations
- Photo Gallery
- Contact Us
- Member Resources
- Member Home
- Weather
- IW Class Resources by Year
- Day School Schedule
- Electrical Certification Requirements
- Journeyman Online Courses
- Request for Documents Form
- Officers & Staff
- Events Calendar
- Message Board
- Classified Ads
- Contracts
- Downloads
- Login

SCHOOL STARTS SEPTEMBER 16TH.....

What's New at THE TRAINING CENTER 551

NEW TRAINING CENTER UPDATE

The dream of owning our own Training Center has finally come true IV have a lot of equipment and supplies still in boxes, we will be starting /

We have an Open House/Industry Day planned ! Tuesday May 13, 201· the Training Center will be open for you come by and take your own to

JOURNEYMAN CLASS

LIGHTING CONTROL ACCEPTANCE TESTER

Prerequisite : must have taken, and passed, the 50 hour Advan·

New Title 24 regulations will take effect January 1, 2014. The new reg involve more than 10% of the total square footage.

Certified Acceptance Testers will verify that equipment installation requ

The first scheduled class will be Saturday(s) December 7 and 14, 2013 additional class(es) if we have enough interest.

The cost of the class is $25.00 per student.

Minimum class size : 4, Maximum class size : 8

16 CEU's toward State Certification (32 CEU's are required to re

If interested in attending this class you will need to be signed u

Classes will be held here at the Training Center 1700 Corby Ave

CALCTP-Advanced Lighting Control

CALCTP is a new program operated by representatives of the CA Lighti electrical contractors, electrical workers, and manufacturers of advance

CALCTP will educate, train, and certify electrical contractors and electr advanced lighting control systems.

In support of CALCTP, several LCA (Lighting Controls Association) Edu CALCTP. These include EE 101: Introduction to Lighting Control, EE 10 take these courses at any time, at their own pace, from anywhere, anc

www.aboutlightingcontrols.org

The live training is a 50 hour hands on lab/lecture being offered, here "Education Express" web site and sign up for the on line course(s). Aft and he will help get you registered.

We have no classes scheduled. There will be $100.00 (checks only) re only) materials fee. The class will be available to the first members tha registration checks to the Training Center (class size is 4 members min

These hours count toward your State Continuing Education requireme

IF YOU ARE INTERESTED IN ATTENDING THIS CLASS, CONTACT THE T LEAST TWO WEEKS PRIOR TO THE FIRST DAY OF CLASS. WE HAVE TO LATER THAN TWO WEEKS BEFORE THE CLASS STARTS. WE WILL CONI

Looking for Electrician Instructors for Journeym

Would you enjoy sharing your knowledg Journeyman Wiremen? We are actively Electrician courses in order to fulfill the requirements.

**If interested, please email: rejatc@sbcgl
707.523.3837.**

Notes On Journeymen C.E. Credit

Notes to Journeyman - We have been receiving a lot of cal
Unit and received the following clarification:

> ***Continuing education will count if a Journeyman to
> they were not certified until May 1st, 2006 .. they cc
> those who renewed certifications. If they renewed t
> count for any courses taken after May 1st, 2009 and***

If you have any further questions, please contact the DAS E

Labor Headlines

US labour news headlines from LabourStart

- Worker death rate highest in ND
- UFT wins $3.4 billion back-pay payout; new contracts is 2 perce
- Sentencing of Three Contractors in $100 Fraud in NYC Points to
- Save Brooklyn College Graduate Center for Worker Education
- FirstEnergy faces labor charges over closed plants

21453 hits since Dec 05, 2009

Title 24 Workshop: What's New in the 2013 Energy Code?

Tuesday, April 08 2014 12:00pm - 2:00pm by admin Hits: 64

Title 24 Workshop: What's New in the 2013 Energy Code?

Tuesday, April 8, 2014, 12:00 PM - 2:00 PM
The National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW) would like to invite building officials and code inspectors to a free lunch seminar that will provide an in-depth review of the Title 24 changes to mandatory lighting requirements in non-residential buildings. This seminar will address the major updates to the lighting code and the role inspectors play in effective state energy efficiency policy.

With California's new Building Energy Efficiency Standards going into effect in July, the mandatory requirements for lighting controls constitute one of the biggest changes to Title 24 standards. The latest version of the standards also include more stringent requirements for the testing and certification of lighting controls in the form of acceptance testing.
*** 12:00 PM—1:00 PM Lunch and Managers' Summary**
*** 1:00 PM—2:00 PM In-depth Technical Review Changes to Mandatory Lighting Requirements**

Presentations by:
Christopher Smith & Bernie Kotlier, **California NECA-IBEW LMCC, Executive Director, Sustainable Energy Solutions; Co-Chair of the California Advanced Lighting Controls Training Program (CALCTP)**

***Ronald France*, LEVITON, Lighting and Energy Solutions**
*** Managers' Overview of New Lighting Control Requirements**
*** Technical Review of New Lighting Control Requirements**
*** Overview of New State Certification for Contractors and Technicians That Conduct Acceptance Testing**
*** Expanded Lighting Control Acceptance Testing Before "Certificate of Occupancy" Can Be Issued**

IBEW LOCAL 340 & NECA GREATER SACRAMENTO CHAPTER

TARGET AUDIENCE
City, County & Town Building Officials, Plan Checkers and Inspectors

WHERE
Sacramento Electrical JATC
2836 Centro Road
Sacramento, CA 95833

NO MEETING COST
City, County & Town officials are welcome to attend free of charge, lunch will be provided

TO REGISTER
Contact: Grace Duncan at gduncan@340jatc.org or (916) 646-6688 and please provide the name of your city, county or town with names of the participants and their email addresses.

FOR QUESTIONS
Email: csmith@calmcc.org or Call (717) - 525 - 2425

NECA Sacramento • IBEW Local 340 • Sacramento, CA 95833

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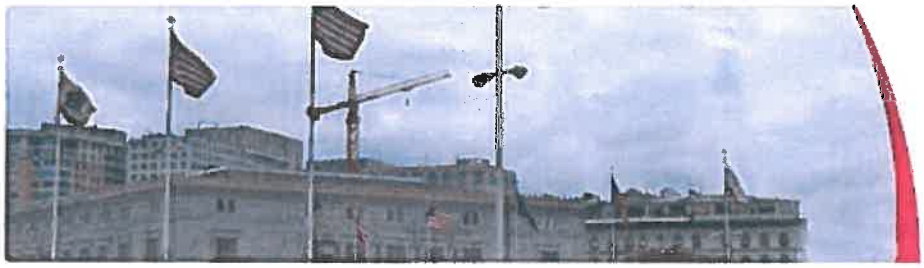

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SINCE 1909

EDUCATIONAL PROGRAM

Classes open for registration	Date	Status
CalCTP Special Membership Meeting at the SFJATC at 4056 Mission, SF	Wednesday, November 20th, 2013	Open now
CalCTP Lecture and Test for Company Acceptance Testing Certification at the SFJATC at 4056 Mission, SF	Friday, November 22nd 2013	Open now
Affordable Care Act - Lunch and Learn	Wednesday December 11th, 2013	Open
Basic Estimating by NECA presenter Bob Mooty at the SFJATC at 4056 Mission SF	April 4th - 7th, 2014	Open

Completed Class	Status
Lien Law Changes by Dan McLennon at the Association office	Completed
Title 24 Code Updates by Charles Knuffke at the SFJATC	Completed
Project Planning A Checklist for Surviving the Dirty Dozen by NECA Presenter Dan Stuart at the Association Office	Completed
Affordable Care Act - How will it affect you? (First of two programs) by David Crutcher at the Association Office	Completed
Lean Construction in Electrical Contracting at the Association Office	Completed

CONTRACTORS

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CALCTP-AT Employer: Lighting Acceptance Test Technician Employer Certification Course

Share Tweet

Follow EDR on

loading latest tweet...

Date: May 16, 2014

Time: 11:00 am - 6:00 pm

Location: San Francisco--PEC

Target Audience: Engineer - Electrical/Lighting Designer/Contractor - Electrical

Topic: Lighting; Controls

Utility Sponsor: PG&E

Register now »

Energy Design Resources is funded by California utility customers under the auspices of the California Public Utilities Commission.

CALIFORNIA LIGHTING TECHNOLOGY CENTER

CALCTP-AT Technician Training Course

NEWS & EVENTS

Upcoming Events
Press Releases

PROJECT REFERENCE

Advanced Lighting Control Training Program (CALCTP & NALCTP)

STAFF RESEARCHERS

CORI JACKSON

Program Director
(530) 747-3843
cmjackson@ucdavis.edu

LINKS

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Published: Tue, 11/26/2013

The California Advanced Lighting Controls Training Program (CALCTP) is offering a course for lighting controls acceptance test technicians and technician employers on May 7-8 at the SCE Energy Education Center in Irwindale, CA. Those who successfully complete the course will be certified to conduct lighting controls acceptance tests as required by the new 2013 Building Energy Efficiency Standards (Title 24, Part 6) set to take effect July 1.

This course is particularly geared for electrical contractors, those from commissioning and engineering firms, and general electricians who are not certified CALCTP Installers. For more details, download the course flyer, visit the CALCTP website or call 1-877-670-7910.

To register, e-mail CALCTP for an application.

Tags

Codes & Standards

California Lighting Technology Center
April 2 at 10:40am ·

Just a reminder....
(Please help spread the word.)

The Next CALCTP-AT Technician Training Course Is May7–8 in Irwindale

The California Advanced Lighting Controls Training Program (CALCTP) is offering a course for lighting controls acceptance test technicians and technician employers on May 7–8 at the SCE Energy Education Center in Irwindale, CA. Get certified to conduct lighting controls acceptance tests required by ...

Like · Comment · Share

Mike Sagi Please post documents online for those who are remote.
April 2 at 5:07pm

TITLE 24 WORKSHOP: WHAT'S NEW IN THE 2013 ENERGY CODE?

CHANGES TO MANDATORY LIGHTING REQUIREMENTS

THURSDAY, MAY 15, 2014, 10:00 PM - 3:00 PM

10:00 AM - 12:00 - SPECIFICATION PRESENTATION (ARCHITECTS, EE'S, CONTRACTORS)
12:00 PM - 1:00 PM - LUNCH AND NETWORKING (BOTH GROUPS)
1:00 PM - 3:00 - CODE PRESENTATION (CODE INSPECTORS, BUILDING OFFICIALS, PERMIT)

The National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW) and the Illuminating Engineering Society (IES) would like to invite building officials, code inspectors, plan checkers, EE's, architects and school district officials to a free lunch seminar that will provide an in-depth review of the Title 24 changes to mandatory lighting requirements in non-residential buildings. This seminar will address the major updates to lighting system specification as well as the lighting/electrical code and the role inspectors will play in effective state energy efficiency policy.

With California's new Building Energy Efficiency Standards going into effect in July, the mandatory requirements for lighting controls constitute one of the biggest changes to Title 24 standards. The latest version of the standards also include more stringent requirements for the testing and

Two presentations will be held: The impact Title 24 will have on design and specification, and a presentation on the updated lighting and electrical codes. Interested individuals may attend both presentations. Lunch will be served between presentations and tours of the electrical JATC will be offered.

PRESENTATIONS BY:

Bernie Kotlier, California NECA-IBEW LMCC, Executive Director, Sustainable Energy Solutions; Co-Chair of the California Advanced Lighting Controls Training Program (CALCTP)

Ronald France, LEVITON, Lighting and Energy Solutions

- **Managers' Overview of New Lighting Control Requirement**
- **Technical Review of New Lighting Control Requirements**
- **Overview of New State Certification for Contractors and Technicians That Conduct Acceptance Testing**
- **Lighting Control Acceptance Testing Before "Certificate of Occupancy" Can Be Issued**

NECA IBEW

FRESNO/YOSEMITE CHAPTER

Illuminating Engineering Society | 1375 Woodworth Avenue | Clovis, CA 93612

IBEW LOCAL 100 & East Central California Chapter NECA, Fresno / Yosemite Chapter IES

WHERE

Fresno Electrical JATC
5420 E. Hedges Ave
Fresno, CA 93727

TARGET AUDIENCE

Building Officials, Code Inspectors, Plan Checkers, Electrical Engineers, Architects, Design-Build General Contractors and School District Project Managers & DSA IOR's

NO MEETING COST

City, County & Unified School District Officials are welcome to attend the event free of charge; lunch will be provided.

TO REGISTER

Contact: **Kathy Hawkins** at khawkins@fresnojatc.org or (559) 251 –5174 and please provide the name of your organization with names of all participants, email addresses and which presentation (s) they will be attending.

FOR QUESTIONS

Email: csmith@calmcc.org

TITLE 24 WORKSHOPS
THE NEW 2013 ENERGY CODE

Hosted by NECA & IBEW LOS ANGELES LOCAL 11

NEW MANDATORY LIGHTING & HVAC REQUIREMENTS

The International Brotherhood of Electrical Workers (IBEW) and The National Electrical Contractors Association (NECA) invite building department managers, plan check staff, and inspectors to attend either one of two free comprehensive workshops for an in-depth review of the Title 24 changes to mandatory lighting, and mechanical system requirements in non-residential buildings. These seminars will address the major updates to the lighting and mechanical codes and the role building departments and inspectors play in effective state energy efficiency policy.

With California's new Building Energy Efficiency Standards going into effect July 1st, these new mandates constitute one of the biggest changes to Title 24 standards. The latest version of the code also requires acceptance testing – stringent requirements for testing and certification of lighting controls and HVAC systems.

- **Hours: 7:30 AM - 4:00 PM, on either April 23rd, or May 13th**
- **Continental Breakfast and Lunch Provided by IBEW-NECA**

PRESENTATIONS BY:

Bernie Kotlier, California NECA-IBEW LMCC, Executive Director, Sustainable Energy Solutions; Co-Chair of the California Advanced Lighting Controls Training Program (CALCTP)

John Busch, LEVITON, Lighting and Energy Solutions

James Page, National Energy Management Institute

- **Technical Reviews of New Lighting & Mechanical Requirements**
- **Overview of New State Certification for Employers and Technicians Who Will Conduct Acceptance Testing**
- **Acceptance Testing to be Required Before "Certificate of Occupancy" Can Be Issued**

WEDNESDAY
APRIL 23RD
OR
TUESDAY
MAY 13TH

7:30 AM TO 4 PM

SAME PROGRAM BOTH DAYS

WHO SHOULD ATTEND
City, County & Town Building Officials, Plan Check Staff, and Code Inspectors

WHERE
Electrical Training Institute
6023 South Garfield Ave.
Commerce, CA 90040

NO MEETING COST
City, County & Town officials are welcome to attend free of charge; breakfast and lunch will be provided.

TO REGISTER, *or* FOR QUESTIONS
Contact: Adam Marcus
LA County Dept of Public Works
amarcus@dpw.lacounty.gov
(626) 458-6336. Please provide the name of your city, county, or town with the names of attendees and their email addresses, and which date they will attend.

Monday Morning e-BLAST

Northern California Chapter, NECA

This Weeks Meetings and Events - October 28, 2013

10/28	Mon.-Wed.	4:00 PM	EPS-3 Concludes, Training Center, Modesto
10/29	Tue.	1:00 PM 6:00 PM	Funeral Services for Iris Givens, Callaghan Mortuary, Livermore Board of Directors, Scott's, Walnut Creek
10/30	Wed.	11:00 AM 4:30 PM	Modesto State of the Region Luncheon, Modesto Centre Plaza Safety Committee, Chapter Office, Dublin
10/31	Thu.	All Day 10:00 AM	*Halloween* CalNECA Health Trust, Orange
11/1	Fri.	7:30 AM 10:30 AM 12:00 PM	Solano/Napa ECT, Eagle Vine, Napa S&C JATC Golf Tournament, Cinnabar Hills Golf Club, San Jose Modesto Division, Surla's, Modesto
Upcoming Events		12/6 12/10	Installation of Officers & Holiday Dinner, Blackhawk Auto Museum EBUCC Holiday Social, Palm Event Center, Pleasanton

NECA

OCTOBER

S	M	T	W	T	F	S
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

What We're Working On:

Acceptance Testing Certification for Contractors: As we have reported over the past few months, 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) requires that commercial buildings comply with the new acceptance testing requirements. We are currently offering CALCTP-AT courses for installers, however, contractors also need to be certified as CALCTP-AT contractors. See the FAQs attached. A four-hour course is scheduled for December 2, 2013, 8 AM - 12 PM at the San Clara JATC, 908 Bern Court, San Jose. Contractors interested in becoming Acceptance Testing certified should send at least one mid or senior-level manager to the class. To register, please contact Arielle@ejatc332.org. Please contact Darlene at the Chapter office with any questions.

Things To Know:

A Victory for Subcontractors & Suppliers, Bonding Required on Public-Private Partnerships: Governor Brown has signed AB 164, requiring bonding on Public Private Partnership projects (P3s) beginning January of 2014. In growing numbers, public agencies are turning to Public Private Partnership construction projects. P3s can make public construction possible, especially for financially strapped cities. However, unlike traditional public projects, P3s have no bond protection requirements to ensure contractors and suppliers will be paid for their work. The private entity could run out of money midway through a project and walk away, leaving the municipality with an only partially completed structure and subcontractors and laborers without a paycheck. Under AB 164, the performance bond protects the Government's financial interest in the P3, while the payment bond assures that subcontractors and suppliers get paid for the labor and materials they supply. Bonding costs vary based on the magnitude and cost of the project. The typical bond rate for payment bonds and performance bonds is between .5% - 3.5% of the contracted amount.

Fundraiser in Modesto for Sheriff Christianson: World Champion Grand Prix motorcycle racer Kenny Roberts hosted a political fundraiser last Saturday evening at his home/museum in Hickman. The event raised funds for Sheriff Christianson and invited guests included elected officials from the Stanislaus County area. Brian Gini, Greg Armstrong, Billy Powell, and Bobby Stutzman attended. The event afforded us an opportunity to show support for the local community as well as an excellent chance to network and promote the electrical industry.

In Memory of Iris Givens: We were saddened to learn that Iris Givens, formerly of Givens Electric passed away on October 23, 2013. An obituary for Iris is attached. Services are scheduled for ***Tuesday, October 29 – 1:00 PM*** *at Callaghan Mortuary: 3833 East Avenue, Livermore.* In lieu of flowers, Iris requested donations be made to Valley Humane Society or Hope Hospice, two causes which she greatly valued.

Valley Humane Society
http://valleyhumane.org/how-to-help/donate/make-a-donation-as-a-memorial-or-honorarium/
3670 Nevada Street
Pleasanton, CA 94566
925/426-8656

Hope Hospice
https://www.givedirect.org/give/givefrm.asp?cid=1455
Hope Hospice Donations
6377 Clark Avenue, Suite 100
Dublin, CA 94568-3024
925/829-8770

Acceptance Technician Frequently Asked Questions

What is behind the new lighting controls and acceptance testing?
AB32 signed by then Governor Schwarzenegger in 2006 set out an ambitious plan for California to reduce its carbon footprint by reducing greenhouse gas emissions by 30% by 2020. In response to AB32, the California Public Utilities Commission in 2008 published, and updated in 2011, the California Long-term Energy Efficiency Strategic Plan (Strategic Plan) which set bold market transformation energy efficiency goals for the state that has led to updates to the energy efficiency sections of the California state building code – Title 24.

Who is requiring acceptance testing?
The California Energy Commission under Title 24 requires that comprehensive lighting controls be acceptance tested. The 2013 code greatly expands the lighting control requirements for commercial, non-residential buildings.

What is Acceptance Testing?
Acceptance testing is one part of a multi-stage compliance program that ensures newly constructed buildings and new construction in existing buildings conforms to energy-efficiency standards contained in Title 24, Part 6 of the California Code of Regulations (CCR). Acceptance testing consists of a series of construction inspections and functional tests for different types of mechanical and electrical systems. These inspections and tests ensure that applicable systems are installed and operate correctly.

Why This Rule, and Why Now?
Acceptance testing has been around since 2005, but only for new buildings and retrofits impacting over 50% of the existing luminaires or ballasts. The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) require more acceptance testing and establish a criteria for what skills a state certified acceptance technician needs to have.

What spaces will be affected?
The 2013 Building Energy Efficiency Standards (California Code Regulations, Title 24, Part 6) states that the following commercial buildings will have to comply with new acceptance testing requirements:

1) All newly constructed commercial buildings (no previous occupancy)
2) Any addition
3) Any alteration that adds new equipment to an existing space (retrofit) that modifies more than 10% of the existing luminaires or ballasts, or any retrofit of < 40 ballasts or luminaires.

What has to be done for a space to be acceptance tested?
While the acceptance test process is a separate and independent process, Title 24 regulations now require that a Commissioning Report be completed and provided to the Building Owner before a building occupancy certificate can be provided. A lighting control "acceptance test" report is required as part of this larger commissioning report.

If I am an electrical contractor, can I also acceptance test my own work?
Yes, as long as you are a state certified acceptance testing contractor and the work is performed only by a state licensed acceptance technician. For CALCTP we are identifying these as CALCTP-**AT** or CALCTP acceptance testing contractors.

STATE OF CALIFORNIA TITLE 24 LIGHTING CONTROLS ACCEPTANCE TESTING

- Technician Skills & Responsibilities
- Compliance Documentation
- Installation Requirements
- Acceptance Test Procedures

Training Program

Version 5.0

Images Courtesy of IBEW/NECA, California Lighting Technology Center, UC Davis, WattStopper

CALCTP

Impact of California's Energy Codes and Standards

The California Building Energy Efficiency and Appliance Efficiency standards have saved Californians more than $74 billion in electricity costs since 1975.

California's per capita electricity use is about 40% lower than the U.S. national average.

These standards conserve electricity and natural gas, and reduce California's need to build more power generation facilities. They also help protect the environment, and enhance U.S. energy independence.

What's Changing and When?

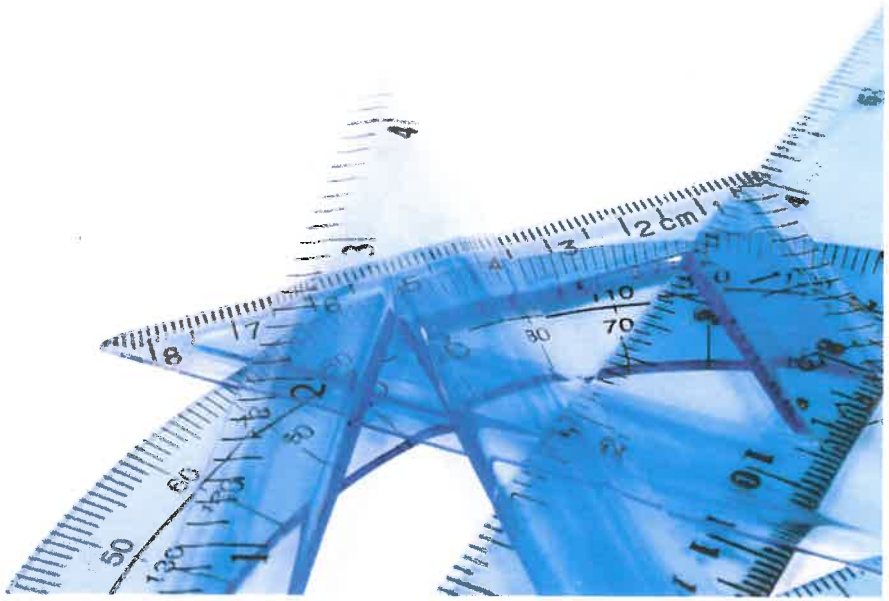
- The California Building Code Energy Efficiency section, Title 24, is updated on a 3 year cycle
- The 2013 update takes effect January 1, 2014
- New state regulations include greater efficiency standards for lighting and other systems
- State certified testing of these systems, called Acceptance Testing (AT), is mandated

Images Courtesy of LUTRON (bottom left and right)

What Type of Project is Regulated?

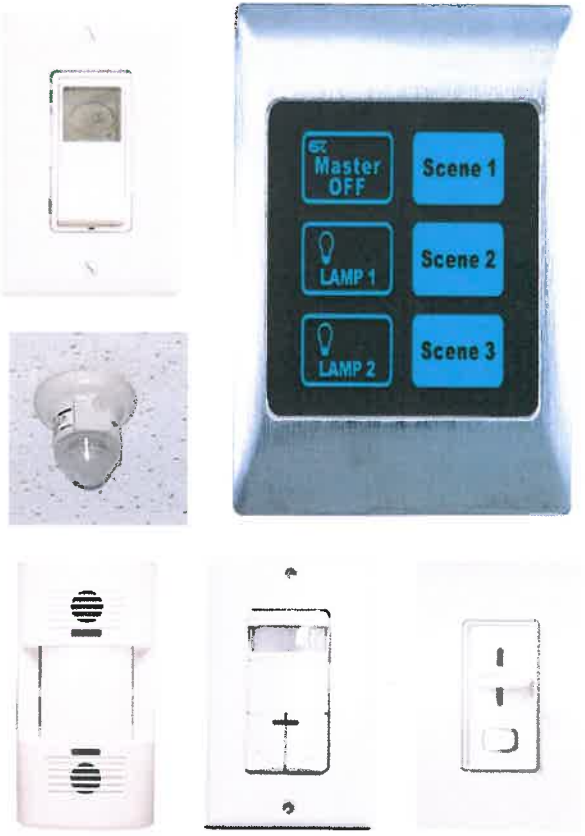
The new building codes and standards regulate in commercial, non-residential, facilities

- Newly constructed buildings
- Alterations / Tenant Improvements (TIs)
- Additions
- Retrofits



What Lighting Controls Will be Regulated?

- Any self-contained lighting control
- Automatic Time-switch controls
- Daylight controls and photo controls
- Dimmers
- Occupant sensing devices



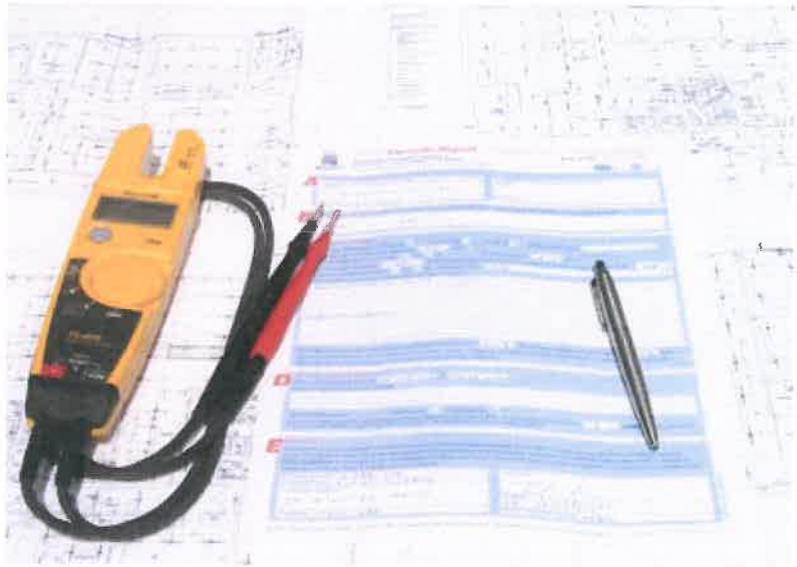
Images Courtesy of LUTRON (bottom left and right)

Acceptance Testing Overview

- One piece of a multi-stage compliance program
- Required for building occupancy
- Verifies installation requirements are met
- Ensures installed equipment and systems operate properly
- Conducted by certified field technicians – if a contractor is not certified they will have to hire a certified contractor to verify their work
- Required by the State of California

Buildings and Systems

- Acceptance tests (AT) must be conducted on certain mechanical and lighting systems
- Required for all newly constructed commercial buildings
- Required on all additions



✓ **Required for all retrofits, renovations and tenant improvements >10% of the space**

Lighting Controls Acceptance Tests

CONTROLS

Required Starting January 1, 2014 on:

1) Automatic Daylighting Controls
2) Automatic Time Switch Controls
3) Occupancy Sensors
4) Outdoor Lighting Shut-off Controls
5) Outdoor Motion Sensors
6) Automated Demand Response Controls (ADR) Mandatory for Alterations Over 50% of a Space

Certified Lighting Controls Acceptance Test Technician

- The California Energy Commission (CEC) / Title 24 requires Certification to conduct lighting controls acceptance testing in California
- The CEC also requires employers of acceptance testers to be certified
- Contractors who are not certified to perform acceptance testing will have to arrange for an outside acceptance tester to certify their lighting controls work

Lighting Controls Acceptance Test Training

- Must include both theoretical and hands-on training
- Limited to participants with at least 3 years of verifiable professional lighting controls experience
- Written and practical exams required for certification
- CALCTP is a state approved **AT** certification provider
- Curriculum developed by UC Davis California Lighting Technology Center (CLTC) under the supervision of the CA Energy Commission

Lighting Controls Acceptance Test Training Classes

- The Acceptance Testing Technical Training Class is 16 hours for those who have a CALCTP installer certificate. There is a pool of over 2,000 to draw from. (A longer class will be developed by UC Davis for others, late in 2013.)
- The CALCTP installer certificate reduces the class time for Acceptance Testing Tech Training.
- The Contractor class is 4 hours. Any currently licensed C-10 contractor may take the class with NO CALCTP Contractor certification or other prerequisites.

Lighting Controls Acceptance Test Training Schedule

- At least 300 Acceptance Testers must be certified by 11/21 so JATC classes need to start in September
- The support and encouragement of contractors, and IBEW-NECA leaders to schedule and fill the electrician classes is crucial
- Contractor staff classes, too
- Call or email your JATC now to provide estimated enrollment numbers

SCE CLTC PG&E SDG&E IBEW NECA CCC

Upcoming Training

- 2 CALCTP-**AT** Train-the-Trainers for Instructors (to teach both technician, and contractor training)
  - August 21-23 in Southern California
  - August 27-29 in Northern California
- Contact your local JATC to confirm they will be offering the CALCTP-**AT** Course in the Fall
- The AT technical course is 16 hours.
- (JATC's are eligible to receive funds through an LMCC State Employment Training Panel (ETP) grant for which a minimum of 24 hours of training is needed for reimbursement. An extended 24 class is available.)
- (The Contractor course is 4 hours.)

State of California Title 24 Lighting Controls Acceptance Testing Regulations

Thank you.

Do I have to be a CALCTP certified contractor to be a CALCTP-AT Contractor?
No, you do not have to be a CALCTP certified contractor for installations to be eligible to become a CALCTP-AT Contractor.

If I'm an electrical contractor and I don't have an acceptance technician on staff what do I do?

a. Before January 1st you can take the CALCTP-AT class and become a certified acceptance test contractor, and encourage current CALCTP electricians to take the CALCTP-**AT** technician course.

b. Per state law, after January 1, 2014 if the project impacts the spaces mentioned above, a building occupancy certificate will not be issued unless the control system(s) are acceptance tested. Thus, you would have to hire an outside acceptance technician to do this work.

Who can become an acceptance testing contractor?
Any state licensed C-10 contractor may become a CALCTP-AT contractor as long as they follow the requirements spelled out in the CALCTP-AT Handbook that will be available shortly on the www.calctp.org website.

How long is the CALCTP-AT Contractor Course
The course is 4 hours.

Who can be an CALCTP Acceptance Test Technician?
Currently, we are focusing on the 2,000 Certified CALCTP electricians

How long is the CALCTP-AT Technical Course?
For those who hold a CALCTP installer technical certification, the CALCTP-**AT** Technical course is 16 hours in length and is a mix of lecture, labs, and a final exam.

(The CA LMCC has received a grant from the California State Employment Training Panel (ETP) to train electricians on advanced lighting controls. If your JATC is interested in receiving these funds for the Acceptance Testing training classes they must offer at least 24 hours of training. An optional 24 hour class is available to meet the reimbursement requirements.)

I was an acceptance technician before can I continue doing this work?
No, because of inconsistencies in the quality of acceptance testing, the 2013 Building Energy Efficiency Standards outlined new requirements for the skills and training that is needed to become an acceptance test technician or an acceptance test contractor. These State of California rules require that an individual must be licensed by a state certified acceptance technician provider. The rulemaking did establish CALCTP as the first (and currently the only) pre-approved interim provider for lighting controls acceptance technicians.

Where do I go for more information?
You can receive more information on the CALCTP website at: www.calctp.org/accetpance-technicians or by emailing CALCTP at info@calctp.org.

California Electrical Training

Providing Electrical Safety Through Education

Lighting Controls Acceptance Test Technician Certification

CALCTP-AT Certified Acceptance Technician

Prior to attending our acceptance test technician course You must register with CALCTP-AT to get a admission slip.

If you don't present an admission slip from CALCTP-AT You will not receive your certificate.

- Meeting the required state and program requirements which can be found in the CALCTP-AT Handbook
- Submitting completed application, supporting documents, and appropriate fees;
- Completed required CALCTP-AT Course.

BEFORE ATTENDING THIS CLASS:

To qualify to attend our Lighting Control Acceptance Test Technician course:

1. Proof of three years experiences on lighting controls and electrical systems. Submitted to CALCTP-AT Clic here
2. Complete Free 12 hour online Lighting Control Association courses EE-101, EE-102, EE-103, EE-201. Web location for free courses Clic here
3. Pay CALCTP-AT registration fee for Acceptance Test Technician and or Contractor. See attached.
4. You must have an admission slip in order to attend our class. The fee for Acceptance Test Technician Course is $1,500.00 and the fee for Acceptance Test Technician Contractor is $500.00. Seating is limited to the first 15 that sign up. Final date if seats are available will be Dember 10, 2013 for the next class.

1500.00

Purchase

April 2014

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Upcoming classes:

Electrical Testing Equipment

Electrical Testing Equipment

Spanish Class

Transformers

State of California

Division of Labor Standard Enforcement

School #151

Department of Industrial Relations

Ouellette, Mark

From: California Lighting Technology Center <cltc@ucdavis.edu>
Sent: Wednesday, April 30, 2014 12:10 PM
To: Ouellette, Mark
Subject: THE LIGHTING LINK: Career openings at CLTC, new resources, upcoming events, and more!

If you're having trouble viewing this email, you may see it online.

Share this:

LIGHTING LINK

NEWS FROM CLTC AND ITS PARTNERS

CLTC Is Hiring!

Be part of our team. CLTC is currently hiring for the following positions:

Senior Development Engineer: Requisition # 03011998

Programmer V: Requisition # 03011987

Senior Technical Writer: Requisition # 03012054

Visit the UC Davis Career Opportunities website and use the job requisition numbers above to view details and apply. Applications must be submitted through the UC Davis Career Opportunities website.

Konstantinos Papamichael Leads Talks on Adaptive Lighting Controls and the Internet of Things

On April 23, 2014, CLTC Co-director Konstantinos Papamichael presented at the first MCA/Semico IMPACT event on Smart Lighting. He discussed lighting control strategies and emerging technologies that maximize the energy-efficiency and functionality of both electric lighting and daylighting systems. Dr. Papamichael also moderated a panel discussion on "Smart Lighting: The Gateway to IoT?" with manufacturers and designers.

Dr. Papamichael's presentation slides are now available through CLTC's website.

Michael Siminovitch Lectures on Circadian Lighting for Thai Audience

CLTC Director Michael Siminovitch will deliver a lecture on new lighting strategies and technologies, particularly LEDs, and their effects on human health and circadian function.

Friday, May 2
King Mongkut's University of Technology Thornburi
Bangkok, Thailand

Discussion will cover the sustainable, circadian-sensitive residential lighting of the Honda Smart Home US.

Learn more.

CALCTP Acceptance Test Technician Training Course

The California Advanced Lighting Controls Training Program (CALCTP) holds its next AT Technician Training course next week:

Wednesday and Thursday, May 7–8
SCE Energy Education Center
Irwindale, CA

Those who successfully complete this course will be certified to conduct lighting controls acceptance tests required by 2013 Title 24, Part 6 standards that take effect July 1. Visit the CALCTP website or call 1-877-670-7910 for more information.

Download the course flyer.

To register, e-mail CALCTP for an application.

Residential Lighting: Title 24 and Technology Update

CLTC's Kelly Cunningham will lead this one-day course on the latest Title 24, Part 6 lighting requirements for residential spaces.

8:30 a.m.–4:30 p.m.
Tuesday, May 6
Pacific Energy Center
San Francisco, CA

The class is intended for professionals who design, specify, or inspect lighting installations in new and remodeled homes. Worth 5.5 AIA credits, the class is offered at no cost through Pacific Gas and Electric Company's Energy Education Classes.

Register.

Technology Forum: The Future of Lighting

CLTC Director Michael Siminovitch will present “Choosing the Right Light,” a talk on selecting LED lighting for different applications. The forum will also feature a panel discussion on "Paths to Achieving Global Energy Savings with LEDs."

5:30–9:30 p.m.
Thursday, May 29
Cooley LLP
Palo Alto, CA

Light refreshments will be provided, as well as networking opportunities and demonstrations of LED lighting products. Learn more.

Connect with CLTC at Lightfair

CLTC will participate in this year's Lightfair Trade Show and Conference, where we will debut a new sensor technology for use in street lighting applications.

June 3–5
Daylighting Pavilion, Booth 6316
Las Vegas Convention Center
Las Vegas, NV

Stop by to learn more about our latest demonstrations of adaptive networked lighting control systems and more.

GET CERTIFIED!

Training for Lighting Controls Acceptance Test Technicians

June 11 – 12, 2014 • Zero Net Energy Center in San Leandro, CA

WHO SHOULD REGISTER?

This course is designed for lighting professionals from commissioning and engineering firms, electrical contractors, and general electricians who are not certified CALCTP Installers.

HOW DO I APPLY?

Visit **CALCTP.org** to submit a CALCTP-AT Technician application, and submit payment online or by mail.

COST: $500

The course fee includes materials, lab fees, and record keeping. Credit card payments may be submitted online. Checks are also accepted.

COURSE LOCATION:

Alameda County Electrical JATC
Zero Net Energy Center
14600 Catalina Street
San Leandro, CA 94577

California's new Title 24 standards will require that certain lighting control devices be certified as properly installed and operational before occupancy permits are issued. The new standards also require that this verification process be performed by a trained and certified lighting controls acceptance test technician.

The California Advanced Lighting Controls Training Program (CALCTP) certifies acceptance test technicians and technician employers. CALCTP has designed this intensive, interactive one-week course for applicants who are: professional engineers, certified commissioning professionals, licensed electrical contractors, or general electricians who are not certified CALCTP Installers.

Participants will have the opportunity to share their recommendations and feedback, and they will come away with the training and tools they will need to successfully conduct and document acceptance tests required by the 2013 Title 24 standards.

Wed, 6/11: AT Part I and II, 8:30am – 5:30pm

Thu, 6/12: AT Lab, 8:30am – 12:30pm
AT Certification Exam, 2:00 – 4:30pm

Questions? Call 1-877-670-7910
www.calctp.org/acceptance-technicians

GET CERTIFIED!

Training for Lighting Controls Acceptance Test Technicians

May 7–8, 2014 • SCE Energy Education Center in Irwindale, CA

WHO SHOULD REGISTER?

This course is designed for lighting professionals from commissioning and engineering firms, electrical contractors, and general electricians who are not certified CALCTP Installers.

HOW DO I APPLY?

Visit **CALCTP.org** to submit a CALCTP-AT Technician application, and submit payment online or by mail.

COST: $500

The course fee includes materials, lab fees, and record keeping. Credit card payments may be submitted online. Checks are also accepted.

COURSE LOCATION:

SCE Energy Education Center
6090 N. Irwindale Avenue
Irwindale, CA 91702

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Wed, 5/07: AT Part I and II, 8:30am–5:30pm

Thu, 5/08: AT Lab, 8:30am–12:30pm
AT Certification Exam, 2:00–4:30pm

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PG&E Energy Efficiency Classes
Class Details & Registration

Program Title	**CALCTP-AT Employer: Lighting Acceptance Test Technician Employer Certification Course** [Register]
Time, Location	May 16 (Friday, 11:00 am to 6:00 pm) San Francisco--PEC
Also Offered	n/a
Description	This 6-hour class is for employers, such as C-10's, Architectural, and Engineering Firms, who have completed the CALCTP-AT employer application process at www.calctp.org. Content covers an overview of Title 24 Part 6's: 1) lighting controls requiring testing and verification, 2) support, hiring, documentation, and auditing procedures of certified acceptance test technicians and permitted projects seeking occupancy, and, 3) a 1-hour exam thereon. A copy of your paid employer application submission from CALCTP will be needed to enter the classroom. Note: Your completed 1-hour exam is sent to CALCTP for scoring -- no results are available at the energy center. **Pre-Requisite**: see below Application requirement. **Application**: Participants must submit an application prior to the training and have a valid admissions slip from CALCTP to attend. The link is here: www.calctp.org/acceptance-technicians **IMPORTANT NOTE**: A copy of your paid employer application submission from CALCTP will be needed to enter the classroom.
Audience Level	
Agenda	
Instructor (s)	**Barbara Cox** Ms Cox has worked with a wide spectrum of industry stakeholders, policy advocates, state and federal agencies to develop and implement demand-driven training programs, including the California Advanced Lighting Controls Training Program (CALCTP), to elevate technical competency standards within the electrical industry. She prepared and implemented workforce development programs with the US Department of Labor, US Department of Energy, the California Energy Commission, and the California Employment Development Department in her capacity as the Director of Sustainable Energy Grants for the California Labor Management Cooperation Committee. Ms Cox earned a Baccalaureate degree in Behavioral Science from San Jose State University. She is a state certified General Electrician (commercial & industrial electrician) and nationally credentialed, apprenticeship-trained Journeyman Inside Wireman.
Resources	N/A
Cost	No fee for this program for California businesses and residents.
Credits	N/A

Registration Form

Bold Fields are Required

Please avoid registering multiple people under a single email address. Doing so may cause a failure to register.

Your Name: (First, MI, Last)	
Your Job Title:	
Your Company Name:	
Street Address 1:	
Street Address 2:	

City:

State: California

Zip:

Phone:
(area code + number)

Cell Phone
(area code + number):

Fax:
(area code + number):

E-mail address:

***** AIA. Member Number
(see below):

NOTE: If you have already submitted the information below in a previous form, we have your request and you do not need to check the boxes and radio buttons again. Simply skip the items below and click "Send Form".

Please **DO NOT** send me e-mail messages about energy efficiency classes.

Please send me occasional e-mails about classes on the following checked topics.

Architecture

Alternative Energy (solar, wind, etc.)

HVAC

Data Collection & Measurement

Lighting

Residential Energy Efficiency

Commercial Refrigeration

Send Form

***If you are not a member of the AIA (American Institute of Architects), leave this field blank.** If you are a member of the AIA and want us to report these continuing education credits, please include your AIA member number. After the class, we will report attendees' names and member numbers to the AIA.

CALCTP Proposed Licensing Fee (Paid by Individual)

Comparison with Fees for: (1) Building Performance Institute, Inc. (BPI) certification for residential energy auditing; (2) North American Board of Certified Energy Practitioners (NABCEP) certification for solar power and heating system installers.

Type	BPI Charges	NABCEP Charges	CALCTP Proposed
Application Fee Electronic/Paper	$0	$125/$175	$225
Examination Fee	$250-$300	$300	N/A
Recertification Fee	$300-$550	$300-$350	$125

CALCTP Quality Assurance Site Visits (Paid by Company)

Type	BPI Charges	NABCEP Charges	CALCTP Proposed
Initial Application (Accreditation Fee-Fee Covers 4 Hour Required Course)	$500	$500	$500 for Single Office $750 for Multi-Office
Initial Application (Quality Assurance Fee)	$1,000	$375 Per Audit (3 Audits will be Required for Initial Application or $1,125)	$200 for Paper Audits $400 for On-Site Audits
Annual Fee after 1st Year	$1,000 to $2,500[4]	$500 - $5,000[5]	N/A