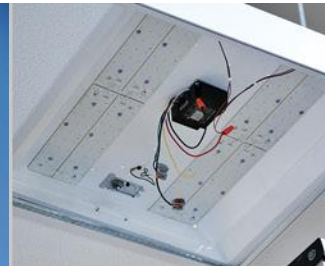# STATE OF CALIFORNIA TITLE 24 LIGHTING CONTROLS ACCEPTANCE TESTING

- Technician Skills & Responsibilities

- Compliance Documentation

- Installation Requirements

- Acceptance Test Procedures

Training Program

Version 5.0

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

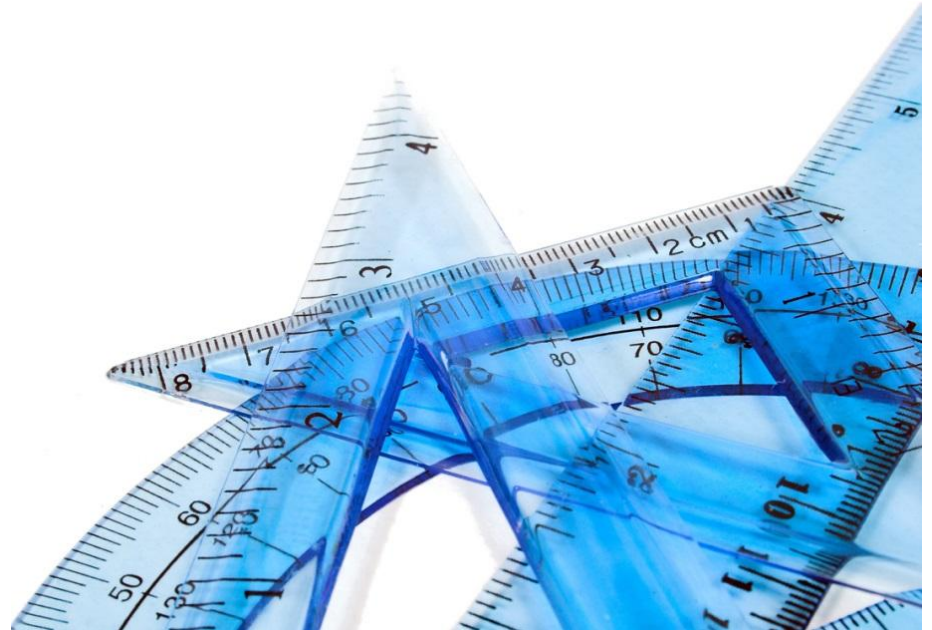- State certified testing of these systems, called Acceptance Testing (AT), is mandated

Images Courtesy of LUTRON (bottom left and right)

What Type of Project is Regulated?

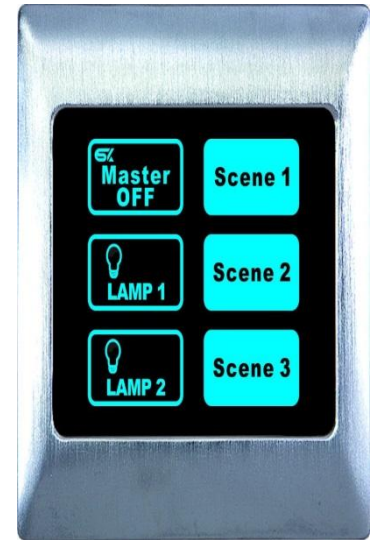The new building codes and standards regulate in commercial, non-residential, facilities

• 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 of Building Owner** 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

Required of Building Owners 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.

SCE CLTC PG&E SDG&E IBEW NECA CCC

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

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.