



Technical Bulletin

GENERAL DISTRIBUTION

Issue: #TB164
Date: May 12, 2005
Topic: Title 24 Code Compliance

Title 24-2005 Standard for Residential Lighting

Upcoming changes in the residential provisions of California's Title 24 are substantially increasing the requirements related to residential lighting. This bulletin identifies and summarizes the major changes in the Title 24 Standard that will become effective in October 2005.

This bulletin is intended to provide builders, contractors, and electrical distributors with information about upcoming code requirements. However, it is not intended to replace the standard. Please refer to the standard for exact interpretation.

Upcoming Title 24 Standards for Residential Lighting [Title 24-2005, §150 (k)]

The new provisions of Title 24-2005, effective October 1, 2005 add substantially greater

Summary Table of 2005 Residential Lighting Standards

Kitchen	Electronic Ballasts for all lamps rated 13 Watts or greater	All Hardwired Lighting Must be High Efficacy	Alternate option: Up to 50% of relamping rated WATTAGE can be other than high efficacy
Bathroom	Recessed luminaires in all insulated ceilings approved for zero-clearance insulation cover (IC) and certified airtight		Alternate option: Manual-on occupant sensor
Garage			Alternate options: Manual-on occupant sensor, or dimmer
Laundry Room			
Utility Room			Alternate option: Motion sensor plus photo control
All other interior rooms (i.e.: Hallway, Dining Room, Bedroom)			Alternate option: Occupant sensor
Outdoor lighting attached to buildings			
Common Areas of low-rise residential buildings with 4 or more dwelling units	Switch all high efficacy lighting separate from low efficacy lighting		
Residential parking lots and garages for 8 or more vehicles	Must meet 2005 Nonresidential Building Standards		

California Energy Commission

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requirements. These include more encompassing definitions of kitchens and bathrooms as well as more stringent definitions of high efficacy lighting. There are also requirements for many residential spaces not previously addressed, such as utility rooms, laundry rooms, bedrooms and other living spaces. Furthermore, the new code adopts allowances for the use of lighting controls in many residential spaces. Subsequent to the adoption of Title 24-2005, the California Energy Commission approved provisions for early adopter credits.

New Requirements for many spaces

Kitchens [§ 150(k)(2)]

Requirement: 50% of installed wattage must be high efficacy lighting

High efficacy lighting must be switched separately from low efficacy lighting

Hallways, stairways, dining rooms, bedrooms, living rooms [§ 150(k)(4)]

Requirement: High efficacy lighting OR

Manual-ON occupancy sensor or dimmer

Exception: Closets less than 70 ft.²

Bathrooms, garages, laundry rooms, utility rooms [§ 150(k)(3)]

Requirement: High efficacy lighting OR

Manual-ON occupancy sensor

Exception: None

Outdoor lighting [§ 150(k)(6)]

Requirement: Outdoor lighting attached to buildings must be high efficacy OR

Motion sensor AND photocontrol

Exception: Lighting not attached to building (i.e., landscape lighting)

Requirements for Occupancy Sensors and Dimmers [§ 150(k), § 119(d)]

To ensure that sensors will operate as the code intends, specific operational requirements on sensors have been imposed.

Occupancy-based sensor requirements:

- Manual-ON/Auto-OFF only
- No time delay greater than 30 minutes
- Sensor cannot be locked in permanent ON mode
- Outdoor motion sensors MAY have Auto ON/OFF operation; MUST have photocell to hold lighting OFF during daylight hours

Early Adoption Credit [Resolution dated May 5, 2004, State Energy Resources Conservation and Development Commission]

To encourage builders and contractors to familiarize themselves with the new code provisions, and to speed the transition to the new standards, the California Energy Commission (CEC) approved a new limited-term compliance option for early compliance with the residential lighting standards portion of Title 24-2005. This option is available for any eligible construction projects for which a building permit is submitted from May 5, 2004 to October 1, 2005 (the effective date for the new standard).

This “early adopter” credit is 1.5 kBtu/ft² per year for eligible buildings. To receive the credit, applicants must:

1. be single family buildings, or multi-family buildings where individual dwelling units are modeled individually for showing compliance
2. all residential lighting requirements for Title 24-2001 and Title 24-2005 are met
3. project compliance is demonstrated via certified HERS (Home Energy Rating System) rater field verification

Conclusion

The use of qualified sensors is a simple, convenient, and least-cost way to comply with many of the new lighting requirements provisions of the Title 24-2005 Standard. Watt Stopper/Legrand offers the CN and CW series of vacancy sensors, occupancy-based sensors specifically engineered to comply with Title 24-2005 requirements. Through its Technical Support team, Watt Stopper/Legrand also provides technical expertise on code compliance issues, such as product selection and design and application guidance. Call Technical Support at 800.879-8585 for assistance with code compliance.

Other Resources

These organizations can provide additional assistance and information on compliance with Title 24-2005 residential lighting requirements:

Building Industry Institute (BII):	www.thebii.org
California Building Industry Association (CBIA):	www.cbia.org
California Energy Commission (CEC):	www.energy.ca.gov
California Lighting Technology Center (CLTC):	www.cltc.ucdavis.edu