

BLUEPRINT

Efficiency and Renewable Energy Division

October 2008 – Number 89

The 2008 Standards have been adopted

Effective July 1, 2009

In April 23, 2008 the "2008 Building Energy Efficiency Standards" were adopted by the California Energy Commission.

The Commission completed a thorough and open public process in developing and adopting these new regulations. California utilities, the California Building Industry Association (BIA), the California Association of Building Energy Consultants (CABEC), the Natural Resources Defense Council (NRDC), and many others, support the newly approved changes. The 2008 Standards will take effect on July 1, 2009.



Final Standards and related documents will be posted on the web in early 2009



Changes for 2008



The 2008 Energy Efficiency Standards, incorporate new measures to reduce energy use and greenhouse gas emissions. This brief overview explains some of the most significant changes, and some of the next steps before the new Standards go into effect.

This Blueprint is intended to help building departments, builders, contractors, designers and energy consultants understand the upcoming changes. This edition is a brief easy reference to help anyone that is directly or indirectly involved in the design and construction of energy efficient buildings to comply with the standards.



2008 Low-Rise Residential Only Changes

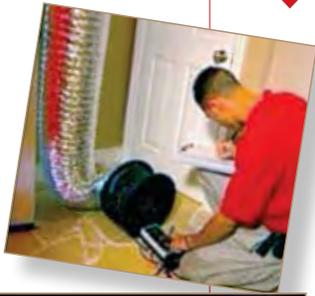
- ◆ Upgrade window u-factor requirements
- ◆ Update lighting requirements, including controls and kitchens
- ◆ Require mechanical ventilation to maintain indoor air quality, establish standards for ventilation rates, ventilation strategies and modeling
- ◆ Update swimming pool and spa requirements to include two-speed pumps and time clocks, limit flow velocity

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- ◆ Update air conditioning refrigerant charge and airflow and protocols; discontinue credit for thermostatic expansion valves.
- ◆ Establish requirements for furnace fan airflow duct design.
- ◆ Require under-slab hot water pipe insulation to reduce heat loss.
- ◆ Compliance credit that manufacturers incorporate into their equipment for:
 - ❖ Airtight air handler boxes
 - ❖ High-efficiency furnace fans
 - ❖ Refrigerant charge indicator displays
- ◆ New Solar Homes Partnership (NSHP) participation is an optional way to comply.

Additional Low-Rise Residential Compliance Options for 2008 Standards:

- ◆ New and expanded credits for saving energy in attics/roofs:
 - ❖ Duct sealing
 - ❖ Attic ventilation
 - ❖ Buried ducts
 - ❖ Cool roofs
 - ❖ Radiant barriers
 - ❖ Insulation above roof deck



- ◆ Expanded credits for envelope sealing with blower door testing.
- ◆ Easier credit for air conditioner right sizing.

2008 Nonresidential/High-Rise Residential Only Changes

- ◆ Upgrade insulation requirements for roofs, walls and floors.
- ◆ Update indoor lighting requirements to include Tailored Method, Display



Lighting Power Densities (LPDs).

- ◆ Add more Area Categories for indoor lighting.
- ◆ Add requirements for high efficacy load shedding ballasts and demand response controls to reduce indoor lighting when signaled.
- ◆ Add requirements for occupant sensors in schools and other areas.
- ◆ Require day-lit areas near windows for some types of buildings, change definition of daylit area and requirements for daylighting controls.
- ◆ Expand skylight and daylighting sensor requirements to include smaller buildings, buildings with lower ceiling heights.
- ◆ Update outdoor lighting power densities; require outdoor lighting to meet Title 24 Standards when alterations replace 30% of fixtures.
- ◆ Update requirements for signs to improve energy efficiency.
- ◆ Change site-built fenestration requirements to simplify NFRC certification, default values, and modeling rules.
- ◆ Add new acceptance requirements for outdoor lighting and building envelopes
- ◆ Expand direct digital control systems to zone level for HVAC systems, including demand shedding controls, hydronic pressure reset, VAV zone minimums, demand control ventilation, and supply air temperature reset.
- ◆ Establish envelope and mechanical requirements for refrigerated warehouses.

Additional Nonresidential/High-Rise Residential Compliance Options for 2008 Standards:

- ◆ Under Floor Air Distribution Systems, Displacement Ventilation
- ◆ Fault detection and diagnostics for air handler units, VAV, and rooftop units.
- ◆ The Standards no longer allow using the R-value of to show compliance. Only U-factors may be used to demonstrate compliance.

2008 Standards changes for Low-Rise Residential and Nonresidential/High-Rise Residential

- ◆ Add cool roof requirements for steep-sloped roofs for new roofs and reroofing.
- ◆ Refine and clarify requirements for additions and alterations for residential and nonresidential buildings, including how to calculate energy budgets.

Details on these and all of the other changes will be available in the Residential and Nonresidential Compliance manuals; which will be published online by January 2, 2009.

Next Steps

Training:

The Energy Commission will work closely with building officials, builders, energy consultants and the utilities to provide training to implement the new Standards.

The utilities are planning to offer training on the new Standards, and some classes are already scheduled. Links for information from your local utility:
www.energy.ca.gov/title24/training

Compliance Manuals:

The Residential and Nonresidential Manuals will be posted on the web later this year. The manuals clarify the new Standards, provide forms and answer compliance questions.

Enforcement:

The Energy Commission's Building Standards Enforcement Unit investigates complaints and provides assistance to Building Officials and energy professionals to increase compliance with the Title 24, Building Energy Efficiency Standards.

Some investigations are done in conjunction with the Contractors State License Board (CSLB), and/or individual building departments or outside parties.

Outreach and Education,

More detailed articles on specific parts of the Standards will appear in future Blueprint issues. New videos will be produced to clarify and explain the new Standards.

Hotline:

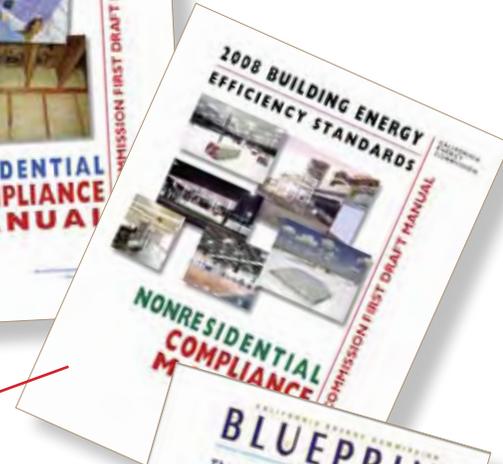
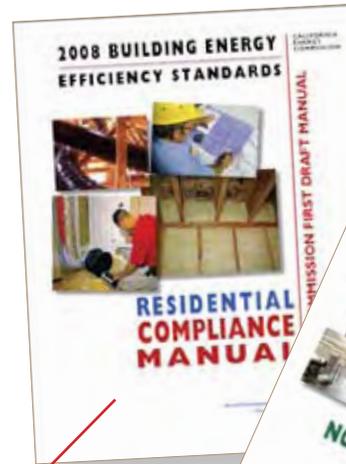
For questions on the Building Energy Efficiency Standards and/or to file a complaint of noncompliance with the Building Standards Enforcement Unit call:

Building Standards Hotline 1-800-772-3300
or 1-916-654-5106 or e-mail us at:
title24@energy.state.ca.us



Additional 2008 Standards information:

www.energy.ca.gov/title24/2008standards/index.html



Blueprint:

This online newsletter answers commonly asked questions and clarifies issues in the Energy Efficiency Standards.

www.energy.ca.gov/efficiency/blueprint/

Videos:

www.energyvideos.com



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Links for training on issues relating to California Energy Efficiency Standards for Low-Rise Residential and Nonresidential/High-Rise Residential Buildings (Title 24, Part 6) are available on the Energy Commission's website at:



www.energy.ca.gov/title24/training

The Energy Commission's Energy Code Online Training
www.energyvideos.com/

For training offered by the utilities and other organizations please see the following websites:

PG&E
www.pge.com/stockton

SoCal Gas Company
<http://seminars.socalgas.com>

San Diego Gas and Electric
<http://seminars.sdge.com/int/default.asp>

SCE
www.sce.com/RebatesandSavings/EnergyCenters/workshops.htm

SMUD
www.smud.org/education/index.html

CALBO Training Institute
www.calbo.org

CABEC
www.cabec.org



Flex Your Power Newswire
www.fypower.org/news/enewswire.html

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