

# S O U T H L A N D

e n e r g y c o n s u l t a n t s

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## 2008 BUILDING ENERGY EFFICIENCY STANDARDS

On **January 1, 2010** the 2008 California Energy Standards went into effect.

All Title 24 calculations submitted on or after this date must be run in accord with the new standards.

When the Performance Approach is used, the computer program generates a "Standard Design" generated from Package "D" requirements. The "Proposed Design" is then compared with the "Standard Design". If the "Proposed Design" does not meet the "Standard Design" requirements, energy saving trade-offs are allowed to compensate when using an approved computer analysis.

Trade-offs are not allowed when the CF-1R is filled out by hand.

Please see the Package "D" requirements outlined on Standards Table 151-C Component Package D (attached). Use these requirements as a reference in anticipation of complying with the current Standards.

***Although Southland Energy Consultants continues to utilize the Performance Approach for flexibility, be aware that all projects will be measured against Package "D" features described below.***

❖ **Insulation** – While R-30 is a Package "D" requirement for ceiling insulation in climate zones 2 thru 10, R-19 may be used if trade-offs can be utilized.

❖ **Fenestration** – All climate zones continue to have an allowance of 20% glazing in all climate zones. Climate Zone 6 continues to be exempt from the maximum of 5% west facing, while 7 thru 15 continue to be measured against the 5% maximum west facing fenestration.

❖ **Fenestration High Impact Change** – U-factor and SHGC requirements for all climate zones have changed. Climate zones 4 thru 14 have a maximum u-factor of 0.40 and SHGC of 0.40. In plain language, this means if you use a non-NFRC rated window or door you will be penalized. Default values for unrated fenestration products do not come close to meeting the Package "D" requirements. Unrated products may still be used in situations where trade-offs can be utilized using the Performance Approach.

❖ **Cool Roof Requirements** – Under Package "D", cool roofs may now be required depending on climate zone, low-slope or steep-slope and type of product being used, weighing less than 5 lbs/ft<sup>2</sup> or 5 lbs/ft<sup>2</sup> or more. See Standards Table 151-C Component Package D attached. The Cool Roof Rating Council website <http://www.coolroofs.org/> can be accessed to check solar reflectance and thermal emittance of roofing products. Cool roof requirements may be avoided in situations where trade-offs can be utilized using the Performance Approach.

❖ **HVAC Equipment** – The minimum 13.0 SEER for all air conditioning equipment remains unchanged. The minimum furnace AFUE continues to be 0.78, although duct leakage testing had become a **requirement** for all climate zones. Trade-offs may be utilized under the Performance Approach to bypass duct testing.

❖ **Whole House Ventilation** – All low-rise residential buildings are required to have a whole house ventilation system, window operation will not satisfy this requirement. The only exception is additions 1,000 square feet or less or renovations. Typical solutions include exhaust ventilation, supply ventilation or a combination of supply and exhaust ventilation. Please see Table 4-7 of the 2008 Residential Compliance Manual attached for required CFM.

## 2008 BUILDING ENERGY EFFICIENCY STANDARDS (CONT.)

❖ **HERS Verification** – Any time your project utilizes a trade-off that requires a HERS Verification; the project is required to be registered with one of the Professional Agencies created to monitor these inspections for the Building Department. While third party verifications have been specified in the past, enforcement was lax. The hope of the CEC is that the required registering of projects will enable the third party inspectors to track and enforce these requirements. Plan ahead and prepare for these inspections by informing all involved on the project when these measures are required.

❖ **Kitchen Lighting** – Kitchen lighting requirement of 50% high efficacy wattage remains unchanged. Enforcing the requirement has changed. **THE WS-5R IS NO LONGER REQUIRED AS PART OF THE BUILDING DEPARTMENT SUBMITTAL.** The new form titled CF-6R-LTG-01 will be required from the Installing Contractor by the Inspector for final approval. As a side point, kitchen lighting internal to cabinets is not considered part of the 50% kitchen lighting for the calculation and may be used, but shall use not more that 20 watts per linear foot.

### ❖ **New Kitchen Lighting Exemption**

For residences less than or equal to 2,500 sq. ft. you are allowed an additional 50 watts of low efficacy lighting in the kitchen.

For residences greater than 2,500 sq. ft. you are allowed an additional 100 watts of low efficacy lighting in the kitchen.

Both requirements must be met for additional wattage:

**IF** all luminaries in garages, laundry, closets greater than 70 sq. ft. and utility rooms are high efficacy **AND** have a vacancy sensor. **IF** all low efficacy luminaries (including the kitchen) are controlled by a dimmer, vacancy sensor, EMCS or multi-scene programmable control.

### ❖ **Residential Lighting**

Blank electrical boxes: in kitchens are now to be calculated and treated as 180 watts of low efficacy lighting.

Internally Illuminated Address Signs: shall comply with 12 watts per sq. ft. internal illumination & 2.3 watts per sq. ft. external illumination OR equipped only with one or more of the light sources to follow: high pressure sodium, metal halide lamps with min. efficiency, neon or cold cathode lamps with min. efficiency, fluorescent lamps with a min CRI, LEDs with min. efficiency, compact fluorescent lamps (non-screw based), electronic ballasts min 20 kHz.

### **What this means for you:**

The current way we have been receiving information will suffice, except you are not *required* to provide the kitchen lighting layout. You may wish to continue providing a kitchen lighting plan for our review. We will comment on how your plan meets the current code requirements. The requirements for glazing and cool roofs may require advance selection on your part, but this will be to your benefit.

Despite the additional coordination when third party inspection is required, our fees will remain the same as follows:

SFR under 5,000 sq. ft.:	\$250
SFR between 5,000/ 10,000 sq. ft.:	\$350
Above 10,000 sq. ft. :	Call for fee

If you would like to review the new forms or would like more information please visit: <http://www.cabec.org/> or <http://www.energy.ca.gov/title24/> . The entire Energy Manual is also available from both websites. You can also utilize <http://nfrfc.org/> to see if your desired windows or doors have been rated by the NRFC.

We want to take this opportunity to thank you for your business. We have been in the business of providing Title 24 Energy Calculations to our clients for almost 25 years and look forward to doing so for many years to come. Please feel free to call or email if you have questions concerning the new standards or any other issues concerning energy conservation.

Sincerely,

**Southland Energy Consultants**

Southland Energy Consultants  
Building Energy Efficiency Standards January 1, 2010