

NEW 2008 ENERGY EFFICIENCY STANDARDS EFFECTIVE - JANUARY 1, 2010

The 2008 Title 24 Energy Efficiency Standards will become effective on January 1, 2010. All permits applied for on or after this date shall comply with the new standards. The 2008 Energy Efficient Standards are approximately 15% more energy efficient than the 2005 standards; however it also introduces a number of new energy credits.

Some of the more significant changes to the **Residential** requirements are listed below:

1. U-factors and SHGC (Solar Heat Gain Coefficient) requirements have been increased. All windows must meet a U-value of 0.40.
2. Quality Insulation Installation (QII) – Provides a credit if the insulation installation is installed per code requirements and is verified by a certified HERS rater.
3. Cool roof requirements have changed and must be based on the Aged Rated Value of the material. A credit is available, for the cool roof, only if there is no radiant barrier installed. Also, a cool roof credit may be taken for steep-sloped roofs.
4. Indoor Lighting Requirements – New requirements divide the home into three zones:
 - o Kitchen – 50% of kitchen wattage must be high efficacy
 - o Bathrooms, garages, laundry/utility rooms, and closets – Must be high efficacy or shall be controlled by vacancy sensors (not occupancy sensors). You must manually turn on the lights, but they shut off automatically when the room is vacant. These devices also shall have a manual off feature.
 - o Other rooms (rooms not mentioned above) – Must be high efficacy or manual on with vacancy sensors or dimmer controlled.
5. Outdoor Lighting Requirements – All outdoor lights permanently mounted to the building or to other buildings on the same lot shall be high efficacy or controlled by ALL three of the following:
 - o Manual on/off switch, AND
 - o Motion sensor, AND
 - o Photocontrol OR Astronomical Time Clock OR Energy Management Control System (EMCS)
6. Indoor Ventilation – Must comply with ASHRAE Standard 62.2 requirements. Provide a whole house ventilation system that provides outdoor air by using either a continuously running bathroom exhaust fan, or supply air ventilation thru a central HVAC system, or a balanced supply and return system.

7. New HVAC systems must comply with refrigerant charge, proper airflow, and fan watt draw verification performed by a HERS rater. (TXV verification no longer required).
8. Duct testing by HERS rater is now a standard prescriptive requirement.
9. Duct sealing and testing is required on all systems. The alternative, to install higher efficiency equipment, has been omitted.
10. Updated Time Dependent Valuation (TDV) standards will track the time of energy usage in a residence. Homes with greater energy use during peak electrical periods will be penalized, while homes with energy conservation features which reduce energy costs at peak periods will receive a credit.
11. New HERS measures have been introduced that require independent verification such as air tight handler boxes, high efficiency furnace fans, refrigerant charge indicator displays (CID) and correctly sizing the air conditioner.
12. Title 24 compliance documentation must be electronically uploaded to a database registry. This begins in August for tract homes that require multiple orientations and HERS measures, and expands to all projects requiring HERS measures in October. (All HERS raters must upload the information required by the CF-4R into the database before a CF-4R can be printed for review and used by the jurisdiction.)
13. Swimming pools and spas must include two-speed pumps, time clocks, and limit flow velocity.
14. HVAC systems require a room-by-room duct design, sizing, and layout. Also, the standards address the installation methods used to minimize inefficiencies, (i.e. duct obstructions, over sizing, bends, crushing, unnecessary duct length, compliance with design drawings, etc.)
15. HERS sampling groups. For the City of Hanford, the sampling groups must be within the city jurisdiction area, the groups cannot include projects from outside of the city jurisdiction.
16. Informational item – LED lighting is not considered high efficacy unless it is certified by the California Energy Commission as high efficacy.
17. The Reference Appendices now includes the Joint Appendices, this is now one document.
18. Added the New Solar Home Partnership photovoltaic installation as Compliance Option for energy efficiency compliance credit over and above Title 24. Get additional information at: <http://www.gosolarcalifornia.ca.gov/documents/index.html>.

Some of the more significant changes to the **Nonresidential** requirements are listed below:

1. Updated Time Dependent Valuation (TDV) standards will track the time of energy usage in a building. Buildings with greater energy use during peak electrical periods will be penalized, while buildings with energy conservation features which reduce energy costs at peak periods will receive a credit.
2. Cool roof requirements have changed and must be based on the Aged Rated Value of the material. Also, a cool roof credit may be taken for steep-sloped roofs.
3. Changes have been made for insulation requirements in Appendix JA4 for wall, roof, and floor assemblies. These assemblies must meet the applicable U-Factor per the tables, not a minimum installed cavity R-Value.
4. Determining the wattage for luminaires was clarified, including LED, HID, and GU-24 lamps.
5. Daylight areas have been re-defined to include Primary and Secondary sidelit areas which can be used for credit.
6. The default wattage for portable lighting has been removed.
7. Indoor lighting power trade-offs have been clarified.
8. Replacement, recovering, or recoating of the exterior surface of existing roofs shall meet the Cool Roof requirements of section 118(i) when more than 50% of the roof or more than 2,000 square feet of roof, whichever is less, is replaced.
9. There are some new acceptance tests for some mechanical and lighting equipment.
10. Added requirements for occupant sensors in new indoor areas including small offices, multipurpose rooms less than 1,000 Square feet, classrooms, and conference rooms.
11. Revised the outdoor lighting compliance procedure and update outdoor lighting power densities. Also, requires outdoor lighting to meet the energy standards when alterations replace 30% or more of the fixtures.
12. Sign lighting requirements have been updated.
13. New requirement for Hotel/Motel occupancies to use residential water heating models.

These are just some of the changes. Review the Energy Efficiency Standards and the Residential and Nonresidential Compliance Manual for all the energy requirements. For more information, visit the California Energy Commission's web site at <http://www.energy.ca.gov> .