PLANNING AND BUILDING SAFETY DEPARTMENT
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NOTICE TO PUBLIC

2005 CALIFORNIA ENERGY CODE

On October 1, 2005 the new 2005 California Energy Code will take effect within the State of California. All projects both residential and nonresidential submitted for plan check to the City of El Segundo on or after this date will be subject to the new compliance standards. Information on the 2005 California Energy Code may be found at:

California Energy Commission
www.energy.ca.gov

The Building Industry Institute
www.thebii.org

The information provided below is the most significant changes in the 2005 Building Energy Efficiency Standards. For additional information please visit the websites listed above.

Nonresidential Buildings

- Cool Roofs – new and reroofing of nonresidential low-slope roofs (prescriptive not mandatory) [§10-113, 118(i), 143(a)iA, 149(b)1B]

- Acceptance Requirements – basic building commissioning (testing) for HVAC and lighting equipment and controls (mandatory) [§122(h), 125, 131(f)]

- Demand Control Ventilation – sensors vary ventilation depending on CO2 levels in spaces with varying occupancy like conference rooms, dining rooms, lounges, gyms (mandatory) [§121(c)]

- T-bar Ceilings – not allowed to insulate on T-bar ceilings (have to insulate at the roof or on hard ceilings) (mandatory) [§118(e)]

- Duct Efficiency – R-8 duct insulation (mandatory) [§124(a)]; duct sealing with field verification for ducts in unconditioned spaces in new buildings and when air conditioner is replaced (prescriptive) [§144(k)]

- Indoor Lighting – lower power limits to encourage new efficient equipment (mandatory) [§130(c)]

- Skylights in ‘Big Box’ Buildings – skylights with controls to shut off the lights when daylight is available (buildings > 25,000 square feet with > 15 foot ceilings) (prescriptive) [§143(c)]

- Thermal Breaks for Metal Roofs – continuous insulation required between metal roofs and metal framing members (prescriptive) [§143(a)]

- Efficient Space Conditioning Systems – variable air volume, variable speed drives, electronically commutated motors, better controls, certified cooling towers, have to use efficient cooling towers not air cooled equipment on large systems (prescriptive) [§144]

- Unconditioned Buildings – Energy efficient lighting requirements per SB 5X (e.g., warehouses, parking garages) (prescriptive and mandatory) [§100(e)2C]

- Compliance credits – gas cooling, underfloor ventilation [Alternative Calculation Methods (ACM) Manual, performance]

Outdoor Lighting - Nonresidential Buildings (prescriptive and mandatory)

- Covered Lighting Applications - hardscape for automotive vehicles (e.g., parking lots), hardscape for pedestrian use (e.g., walkways, plazas), building entrances, outdoor sales lots (e.g., car lots), vehicle service stations, sales and non-sales areas under canopies, ornamental lighting

- Lighting Power Limits – established by Lighting Zone depending on how much illumination is needed (national and state parks, rural areas, urban areas, highly lit areas)

- Shielding – “Cutoff” fixtures to save energy by reducing glare

- Bi-level Controls – Capability for lighting to be shut off to half level when not needed

Residential Buildings

- Kitchens - At least 50% of the total wattage of kitchen lighting must be from high efficacy luminaries. Non-high efficacy luminaries must be switched separately from high efficacy luminaries.

- Bathrooms, utility rooms, garages and laundry rooms - High efficacy lighting or manual-on occupancy sensors required.

- Exterior, attached to building - High efficacy luminaries or combined photo sensors/occupancy sensors required.

- All other interior spaces - High efficacy luminaries, occupancy sensors, OR dimmers required.

- Recessed lighting - When installed in insulated ceilings, must be both Type IC (insulated covered) and airtight (AT) rated.

- Electronic ballasts - Electronic ballasts are required for all fluorescent luminaries 13 watts or greater.

- Duct Insulation – Levels depending on climate zone (R-4.2 to R-8) (prescriptive) [§151(f)10]

- Pipe Insulation – Hot water pipes to the kitchen have to be insulated (prescriptive) [§151(f)8D]

- Loopholes Closed – Credit no longer given for reduced glazing area or central water heating systems in multi-family buildings [Alternative Calculation Methods (ACM), performance]

- Replacement Windows – Have to be high efficiency (prescriptive) [§152(b)1B]

- Duct Sealing – required when air conditioner/furnace is replaced or ducts are replaced (prescriptive) [§152(b)1D,E]

- Compliance Credit – High EER air conditioners, gas cooling, high quality insulation installation, properly sized air conditioners, efficient air conditioner fan motors, ducts buried in attic insulation (ACM Manual, performance)

- Third Party Field Verification – Changes made to encourage quality installation to be field verified; group measures requiring third party testing and verification and improve protocols and procedures (ACM Manual, performance)

- Outdoor Lighting – high-efficacy or motion sensor/photo control for fixtures attached to buildings (mandatory) [§152(k)6]

Signs

- Lighting Power Limits or Efficient Lighting Sources required – indoor and outdoor signs (prescriptive and mandatory) [§132, 147]