

# How Building Managers Can Plan for New Title 24 Requirements

By Kathy Mattes

The new Title 24 requirements scheduled to go into effect July 1 represent a major step towards the state's goal of achieving Zero Net Energy (ZNE) for new commercial buildings by 2030 and enabling existing buildings to move quickly towards that same goal. While Title 24 contains changes that impact both residential and commercial property, this article will focus only on the commercial property impacts.

The origins of Title 24 go back to 1978 when the Energy Efficiency Standards for Residential and Nonresidential Buildings were created by the California Building Standards Commission. These requirements fall into Part 6 of the California Building Standards Code, which is Title 24 of the California Code of Regulations, therefore the reference to Title 24. The standards are updated periodically by the California Energy Commission to allow possible incorporation of new energy technologies and methods.

The 2014 updates take the original intention to the next level with two significant objectives:

- It moves the design of new buildings toward “comprehensive building solutions,” by first reducing energy consumption through the integration of the newest technologies and then towards the installation of renewable energy generation like solar panels.

- It intends to strengthen demand for the newest technologies that will reduce or replace energy consumption in order to drive the cost down for those products. This will be coupled with new financial incentives offered through utilities to encourage energy efficiency investments by building owners.

Current thresholds for code upgrades in existing buildings, especially for mechanical and electrical systems, have been lowered. This will trigger compliance with the new Title 24 provisions on the majority of a building's capital and tenant improvement projects. In addition, Governor Jerry Brown has directed that state agencies take measures towards achieving ZNE for 50 percent of the square footage of existing state-owned buildings by 2025.

## Here are some examples of the changes in Title 24:

- Plug loads, like those generated by computers, refrigerators and copiers, represent at least a third of the electric consumption in a commercial building. Title 24 strives to reduce “phantom power consumption” by requiring that 120-volt receptacles be enabled to turn off at the receptacle. This results in a new requirement to install a controllable outlet within six feet of most existing outlets.

*(Continued on page 16)*



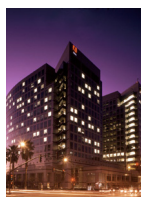
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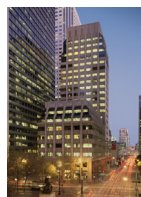
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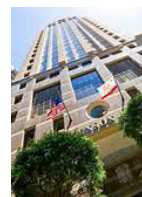
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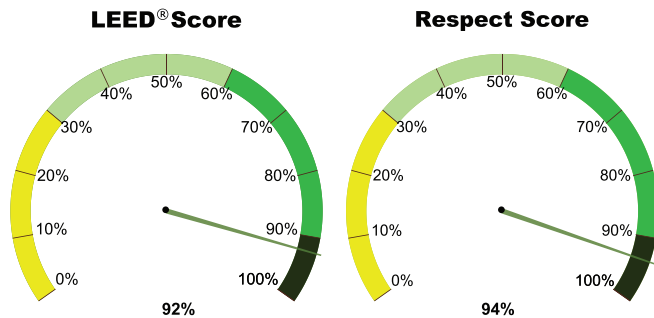


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- Through the use of new technology, energy control systems in the smarter buildings will be able to respond directly and immediately to demand reduction actions during critical-peak supply time periods.
- Title 24 accelerates the installation of more efficient lighting technologies by mandating automated daylighting (using sensors to measure the amount of natural light) and adjusting the light fixtures accordingly. Most building projects will trigger the requirement to utilize daylight harvest within 10 feet of the window line.
- Independent air conditioning units (five tons+) for conference rooms and other gathering places will be required to have a dedicated source of outside air rather than use circulated, conditioned air.

These changes were originally scheduled to go into effect on January 1, and that date was pushed back to allow the State to complete the necessary software for processing forms for permitting, as well as to provide training to all municipalities in the implementation of these new code requirements. That date could change again if the State needs more time.

It is still difficult to estimate the additional cost for these new requirements. John Grcina, with RN Field Construction, has made a point of becoming an expert on the new Title 24. Without actual projects to go by, Grcina is estimating that the additional cost could be \$10-12 per square foot for new buildings over a warm shell. The cost for existing buildings will vary greatly, based on existing conditions and the scope of new work. Jose Guevara with Cushman & Wakefield at Post Montgomery Center, has been advised to expect additional costs of \$4-7 per square foot. But Post Montgomery Center is way ahead of the curve on LEED compliance and, according to Guevara, has already installed some of the systems that will be required by Title 24.

Besides the obvious cost for additional outlets, BMS and other equipment, as well as new commis-

sioning requirements, there will be costs associated with design and plan preparation. There will be more paperwork to complete, and more complications in plan check, depending on how the cities choose to interpret these new requirements. Plan for more confusion in plan preparation and permitting, and definitely allow more time to obtain permits and final sign off.

Advice—meet with your general contractor and your mechanical and electrical contractors and begin to get an understanding of what will be required for your building. Then share the information with your owners so that they will be informed before you present a new construction budget to them.