



Efficiency Standards Office

# Blueprint

Winter 1998, No. 60

## California Energy Commission

### RESIDENTIAL STANDARDS

#### Questions and Answers

**Q Do the Energy Efficiency Standards require an original, or “wet”, signature on the Certificate of Compliance?**

Section 10-103 does not specify that a “wet” signature is required. This is left to the discretion of the building department.

**Q If I am adding windows to a house (no other work is being done), is there a limit to the amount of glass I can add?**

No. The only requirement is that windows and skylights (fenestration products) must have a U-value of 0.75 or lower.

**Q Are there restrictions on the maximum or minimum size for heating and cooling equipment in the Energy Efficiency Standards? What are the sizing and selection criteria?**

There are no restrictions on the size of equipment in the *Energy Efficiency Standards*. Section 150(h) requires load calculations using one of the three listed methods to determine the heat loss and heat gain rates. (The three methods include American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), Sheet Metal Air Conditioning Contractors National Association (SMACNA) Load Calculation Manual, or Air Conditioning Contractors of America (ACCA) Manual J.)

The sizing calculations can be prepared by the documentation author, the mechanical

contractor doing the installation, or a mechanical engineer. The equipment selection, which is based on several criteria other than the heat gain and loss rates, must be made by an individual authorized by the *Business and Professions Code*, such as a mechanical engineer or the installing contractor. It is the mechanical contractor who is ultimately responsible for proper sizing and equipment selection.

**Q What type of pool covers may be used on heated pools and spas to comply with the Energy Efficiency Standards?**

Section 114(b)2 does not specify any criteria for the pool or spa cover. Any cover will limit heat loss from the surface of the water. It is advisable to use a nonpermeable cover.

*(continued on page 2)*

#### INDEX OF THIS ISSUE

RESIDENTIAL	PAGE
Adding window area .....	1
HVAC oversizing restrictions? .....	1
LPG/Natural gas appliances .....	2
Pool/Spa covers .....	1
Vapor barriers .....	2
Wet signatures .....	1
<b>NONRESIDENTIAL</b>	
Using Complete Building Method for a tenant improvement .....	2-5
Multiple primary function areas .....	2
Transferring lighting between areas .....	2
<b>DID YOU KNOW</b> .....	6-7
<b>TRAINING</b> .....	8

## Questions and Answers (continued)

**Q** *I was checking on the certification of a liquefied petroleum gas (LPG) water heater. I could not find this model, but I found the natural gas equivalent model (same model number). Can I assume the model is certified?*

Yes. For boilers, furnaces, gas space heaters, water heaters, and pool heaters, the Appliance Efficiency Regulations (Sections 1603(e) and (f)), state that “models . . . intended for use either with natural gas or liquefied petroleum gases may be tested with natural gas and the results applied to both fuel types.” Listing the appliances with their LPG efficiency is voluntary on the part of the manufacturer.

**Q** *I build in climate zone 14 where vapor barriers are a mandatory requirement [also required in zone 16]. Can a moisture barrier be used as a vapor barrier?*

Only if it has a permeance of one perm or less. (A perm is equal to one grain of water vapor transmitted per square foot per hour per inch of mercury pressure difference.)

Typically a plastic membrane must be used. Although products such as a continuous polyethylene sheet or wall board with foil backing and any product that meets the vapor barrier permeance rating of one perm or less may be used.

Kraft paper backing on batt insulation may qualify if it is installed properly and the paper backing meets the vapor barrier permeance rating. For proper installation, the Kraft paper tabs on each side of the insulation batt must be fastened to the face of the conditioned side of the framing member. At the edge of the insulated cavity, the Kraft paper must overlap the framing members to create a continuous barrier at the cavity. The Kraft paper cannot be stapled to the sides of the framing members.

## NONRESIDENTIAL STANDARDS

### Questions and Answers

**Q** *As the enforcement authority, can I allow a permit applicant to use the Complete Building Method for the lighting compliance in a tenant space (to make documentation easier)?*

Typically, when the results are conservative (more energy efficiency) substituting a simplification is acceptable. Since this is not always easy to determine, the Commission has taken the guess work out of the lighting compliance options. The Commission has come up with a flow chart and examples (see pages 3-5) to determine under what circumstances any of the various lighting approaches can be used.

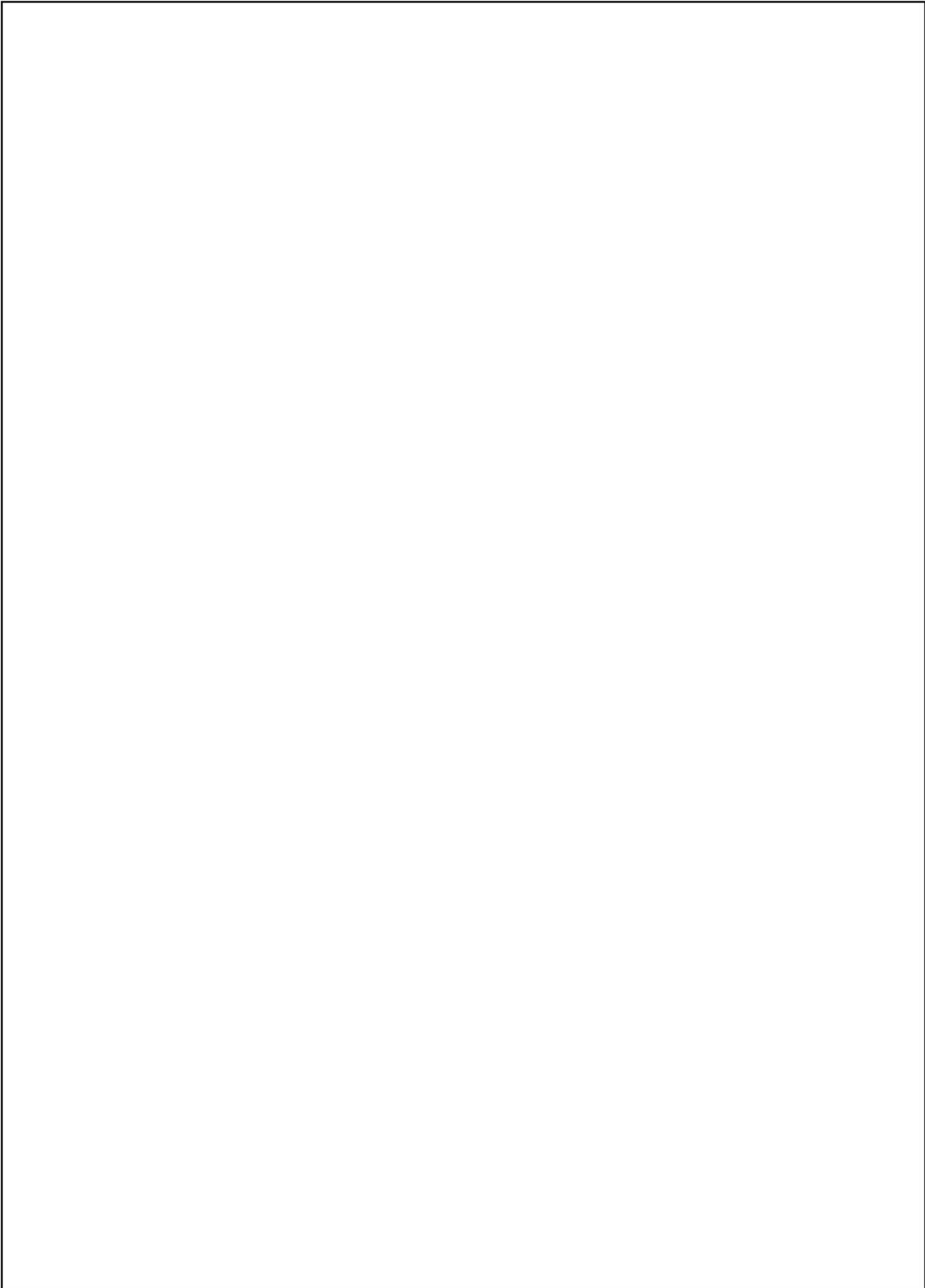
**Q** *I will be using the area category method for a space that functions as both a warehouse and industrial work area. These two areas are not separated by walls or partitions. Can I assign more than one primary function to these areas?*

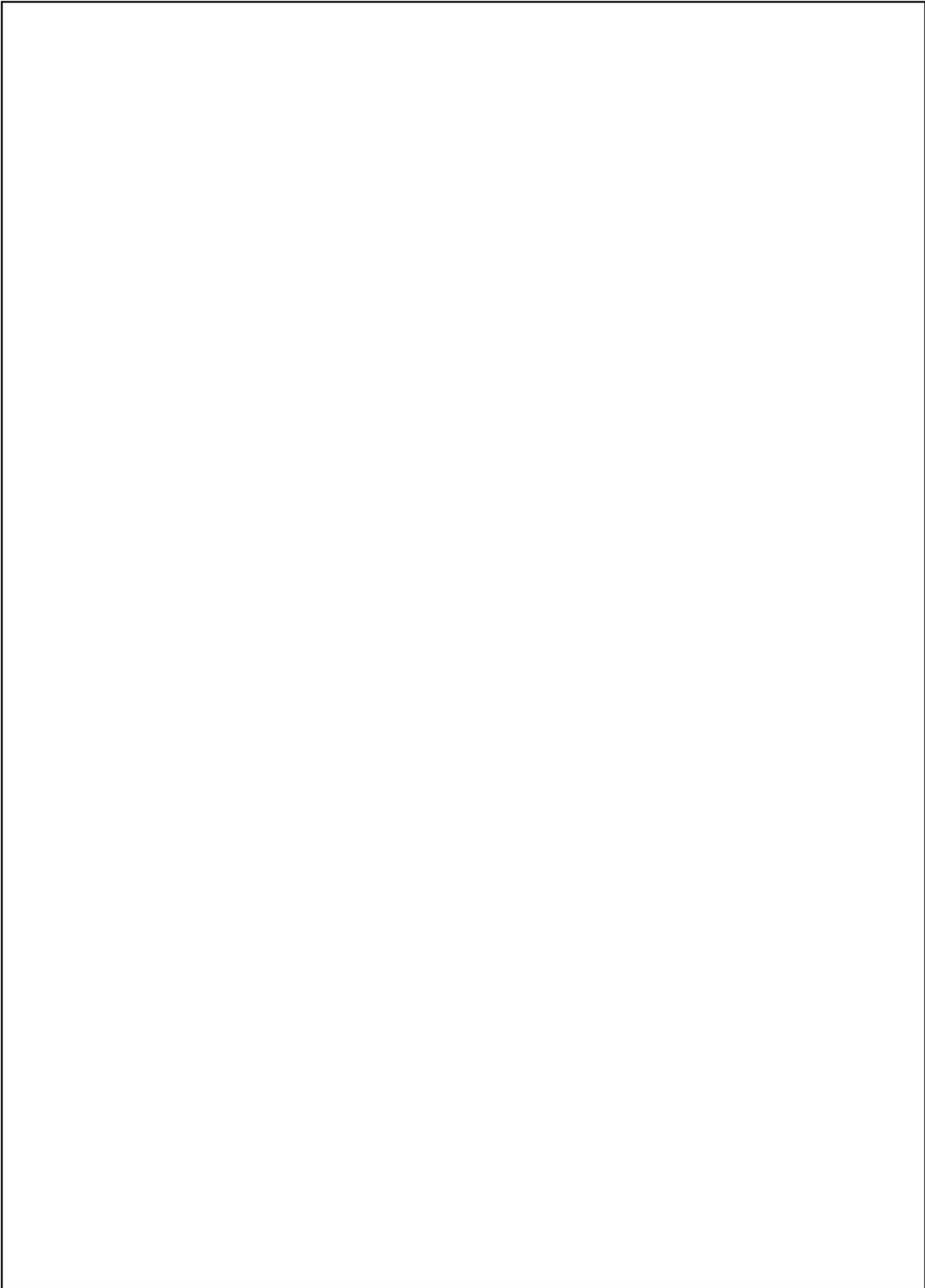
Yes. The designation “primary function” is meant to define the primary activity of the square footage associated with the activity. There is no limit to the number of primary function areas when using the area category method. (See also the previous question for other possible lighting compliance options.)

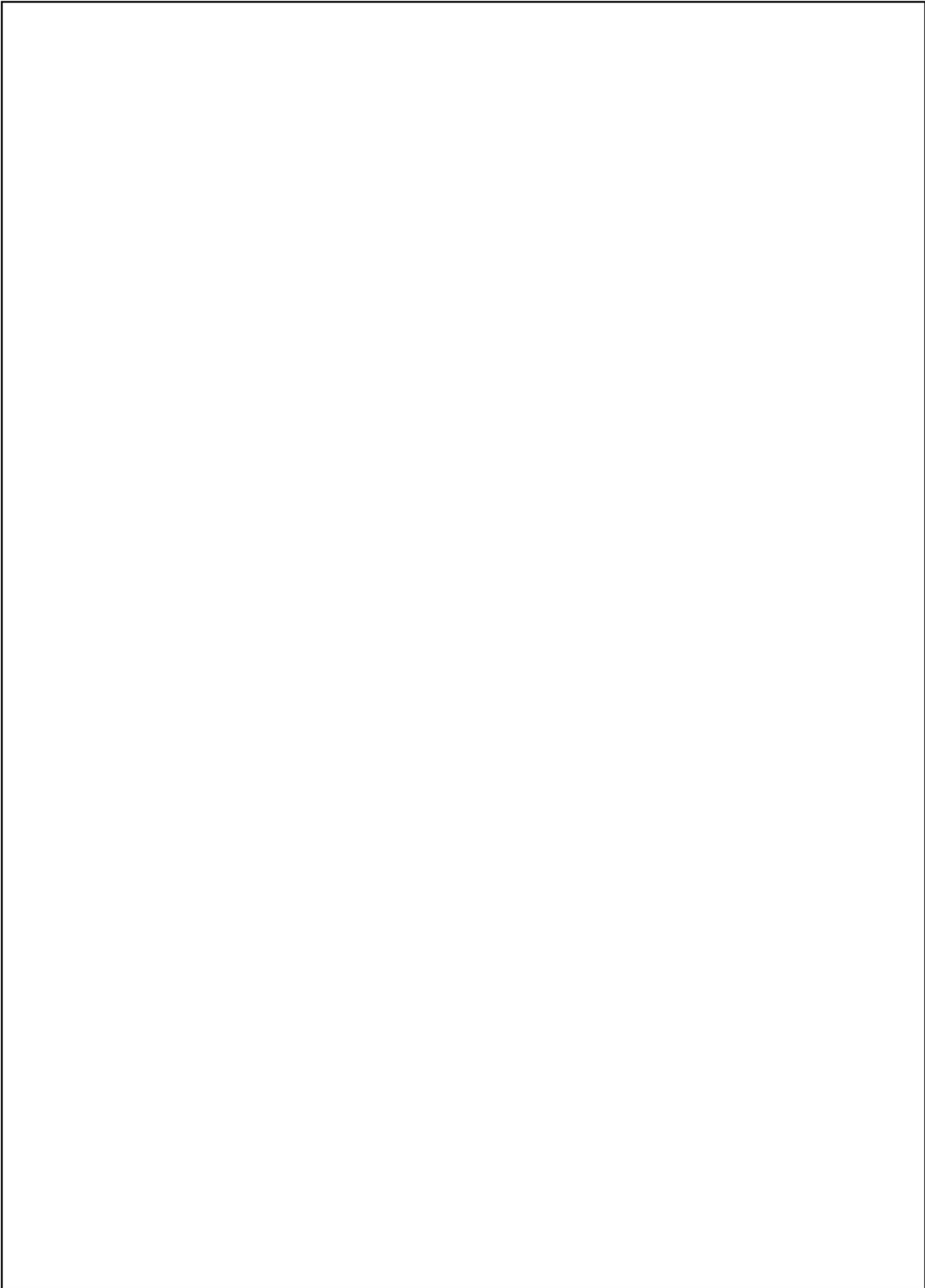
**Q** *Can I transfer lighting wattage between areas when I've used the area category method for compliance?*

Only for areas where there are lighting plans submitted and lighting is installed as part of the approved permit.

(continued on page 6)







## DID YOU KNOW . . . ?

### Training/Certification

. . . You now have the opportunity to receive training prior to taking the *Certified Energy Plans Examiner* Test. Classes are scheduled throughout California (see back page).

. . . Certified Energy Plans Examiner Test dates are as follows:

Residential	Thursday, April 30, 1998
Nonresidential	Thursday, May 14, 1998

Tests are offered in Sacramento and Downey (Los Angeles area). For registration information, contact Douglas Beaman Associates at (209) 524-1623.

. . . Training seminars are being offered on *EnergyPro* (windows 95 version of COMPLY 24), the approved program for residential and nonresidential compliance. Seminars are in Santa Ana and Novato in March. See the back page for more information.

. . . *Building department training* is being offered from June 1998 through May 1999. The Commission, in cooperation with California Building Officials, will be offering training on the Energy Efficiency Standards to building departments in selected areas of the state. If you are interested, contact John Eash, Commission Contract Manager, at (916) 653-7181.

. . . PG&E is offering Integrated Design Assistance (IDA) to designers and consultants to help plan and implement energy efficient new construction projects. The program applies to nonresidential buildings of 50,000 square feet or more in PG&E's electric service territory.

In addition to PG&E paying 100% of the Title 24 performance analysis, the owner receives a comparative analysis summarizing:

- Feasible energy efficiency options.
- Cost benefits of installing these options.

The dates and locations are:

3/9	San Francisco PG&E Energy Center
3/13	Fresno PG&E Club House
3/16	Stockton PG&E Training Center

To attend one of these free informational seminars (8:30 a.m. - 12:30 p.m.), for more information about the IDA program, or to determine your eligibility, call (800) 467-4738.

### Computer Programs

For those still confused about what version of Comply 24 is approved for use, here is a summary.

<u>Comply 24</u>	<u>Approved For</u>
V. 5.1	Nonresidential, Residential
V. 5.0	None
V. 4.10, 4.11 & 4.2	Residential

Comply 24 version 5.0 is decertified for compliance as of September 30, 1997. Version 5.1 was approved effective May 28, 1997. For applications for nonresidential permits using Comply 24 for performance compliance made on or after September 30, version 5.1 is required.

### Mailing List Information

. . . The Energy Commission has mailing lists for residential, nonresidential and appliance standards, in addition to the *Blueprint* mailing list. You must place yourself on mailing lists other than *Blueprint* if you want to be informed about meetings and other activities occurring at the Commission. You must also be attentive to any action required on your part, as specified in the notice, to stay informed at the level that meets your needs.

Typically on lengthy proceedings with large mailing lists, after the initial notice, only the self-identified "active" participants will

(continued on page 7)

## ***Did You Know...? (continued)***

continue to receive documents and notices (notice of availability will be mailed to the entire mailing list).

People on the mailing list to receive this newsletter typically receive very few notices and only those that directly effect *Energy Efficiency Standards* compliance. Request to be on the appropriate mailing list for your needs:

<u>List</u>	<u>Topic</u>
050	Blueprint and notice of product/document availability
051	Appliance standards
052	Development of new nonresidential building standards
053	Development of new residential building standards

Send your ID number and new mailing list categories to the address on the back page.

## **Freebies**

... If you're a builder, you can fulfill one of the requirements of the standards without cost. While they last, you can receive free copies of the *Home Energy Manual* (in boxes of 100). They usually cost \$3 (\$115/box), however, to save on storage costs we are clearing out our inventory. (Section 10-103(b) of the *Energy Efficiency Standards* requires the building owner at occupancy to receive either the Commission's *Home Energy Manual* or a manual that provides all of the operating and maintenance information contained in this manual in addition to several of the compliance forms.) Contact the Hotline at (800) 772-3300 or (916) 654-5106.

## **Oops!**

Saugus, Los Angeles County, is in climate zone 9 (this city is incorrectly designated in the climate zone listing).

## **Tidbits**

... Energy Commission staff in the Efficiency Services Office recently received a letter from the Shasta County Jail in Redding, California. In the letter the County stated that because of implementing energy efficiency projects, identified through the Energy Partnership Program (EPP), their energy consumption had decreased so much that the local utility had actually come out and pulled their meters to check and recalibrate them.

... According to *Energy Design Update* (July 1997), indoor air quality problems are not unique to energy efficient homes, but are common in new homes built with current construction materials and techniques.

... Check out the "www.energyhome.com" web site. It contains information such as "to ask your contractor to see if they know what they're doing," Home Energy Rating Systems, energy efficiency mortgages, diagnostics, green and sustainable product directories, and other information you or your customers might find useful.

## TRAINING

<u>Date</u>	<u>Location</u>	<u>Topic</u>	<u>Sponsor</u>
3/4	City of Colton	Residential	Beaman
3/5	Coronado City	Residential	Beaman
3/10	Santa Ana	EnergyPro (residential)	Gabel/Dodd
3/11	Santa Ana	EnergyPro (nonresidential)	Gabel/Dodd
3/17	Novato	EnergyPro (residential)	Gabel/Dodd
3/18	Novato	EnergyPro (nonresidential)	Gabel/Dodd
3/18	Glenn County	Residential	Beaman
3/19	City of Windsor	Residential	Beaman
3/25	Tuolumne County	Residential	Beaman
3/31	San Luis Obispo	Residential	Beaman
4/1	City of Arvin	Residential	Beaman
4/2	City of Palmdale	Residential	Beaman
4/7	City of Stockton	Nonresidential	Beaman
4/9	City of Fremont	Nonresidential	Beaman
4/15	City of Irvine	Nonresidential	Beaman
4/16	Coronado City	Nonresidential	Beaman
4/21	City of Arvin	Nonresidential	Beaman
4/22	City of Glendale	Nonresidential	Beaman
4/23	City of Colton	Nonresidential	Beaman
4/28	City of Folsom	Nonresidential	Beaman

**Beaman Associates:** Fees: building department employees \$25, all others \$50, employees of the host building department attend free (a working knowledge of the standards is needed). Contact Beaman Associates at (209) 524-1623.

**Gabel Dodd/Energy Soft:** EnergyPro training seminars. Fees: one day \$95, both days \$150. To register, contact Gabel Dodd at (415) 883-5900.

## PUBLICATION ORDERS

Include a self-addressed mailing label and a check or money order (prices include tax and postage) with your publication request addressed to:

California Energy Commission  
Attn: Publications MS-13  
P.O. Box 944295  
Sacramento, CA 94244-2950

## CHANGE OF ADDRESS

Send old and new addresses, with the five-digit ID number (appears above name on mailing label) to above address, Attn: MIS, MS 7.

## TECHNICAL SERVICES

### Web Site

<http://www.energy.ca.gov/energy/>

FactsLine (916) 653-6830

BBS (modem) (916) 654-4069

Hotline (800) 772-3300

(916) 654-5106

### PUBLISHED BY THE

CALIFORNIA ENERGY COMMISSION  
Efficiency Standards Office  
1516 Ninth Street, MS-25  
Sacramento, CA 95814-5512  
(916) 654-4064

### COMMISSIONERS

**WILLIAM J. KEESE**, *CHAIRMAN*

**DAVID A. ROHY**, *VICE CHAIR*

**JANANNE SHARPLESS**

**MICHAL C. MOORE**

**ROBERT A. LAURIE**

**STEPHEN RHOADS**, *EXECUTIVE DIRECTOR*

**DEE ANNE ROSS**, *EDITOR*

