

DOCKETED

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Filer:	Rachel MacDonlad
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Request for Public Input on the Implementation of the 2013 Building Energy Efficiency Standards

Rachel MacDonald
Standards Implementation Office
Efficiency Division

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Purpose of Meeting

- Solicit public input on the implementation of the 2013 Building Standards
 - *Scope is only on the implementation of 2013 Building Standards*
- Staff process to consider recommendations
- **Docket 15-MISC-02** for ongoing comments relating to the implementation of the 2013's Building Energy Efficiency Standards



A Little CEC History

- Section 25402 of the Public Resources Code (known as the **Warren Alquist Act**):
 - The Warren Alquist Act created the Energy Commission in 1974 and gave it authority to develop and maintain Building Energy Efficiency Standards.
 - Requires the Standards and new requirements to be cost effective over the economic life of the structure.
 - Requires the Energy Commission to update the Standards periodically



2013 Documents

The screenshot shows the California Energy Commission website. The header includes the CA.GOV logo, the California Energy Commission logo, and navigation links: Home, About Us, Analysis & Stats, Efficiency, Funding, Power Plants, Renewables, Research, and Transportation. A search bar is also present. The main content area is titled "2013 Building Energy Efficiency Standards" and includes a paragraph about the standards being updated on a three-year cycle. Below this, there are sections for "Energy Standards Documents" and "Compliance Manuals & Forms". The "Energy Standards Documents" section lists two items: "2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings - Revised" and "2013 Reference Appendices: Revised". The "Compliance Manuals & Forms" section is partially visible. On the right side, there is a "News" section with four items: "Blueprint Newsletter", "Commission Approves More Efficient Buildings for California's Future", "Adoption Hearing Presentation", and "SF Chronicle Editorial - A green future starts at home for Californians". Below the news section is a "Reference Documents" section with three items: "Rulemaking", "Documents Relied Upon", and "2013 Standards Related Documents".

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2013 Building Energy Efficiency Standards

California's Building Energy Efficiency Standards are updated on an approximate three-year cycle. The 2013 Standards improve upon the 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2013 Standards went into effect July 1, 2014.

Energy Standards Documents

Building Standards & Appendices

- » 2013 Building Energy Efficiency Standards for Residential and Nonresidential Buildings - Revised
Posted November 25, 2013. (PDF file, 263 pages, 1.9 mb)
 - » Nonsubstantive Errata History
- » 2013 Reference Appendices: Revised
Posted June 30, 2014. (PDF file, 476 pages, 4.7 mb)

Compliance Manuals & Forms

News

- Blueprint Newsletter
- Commission Approves More Efficient Buildings for California's Future
- Adoption Hearing Presentation
- SF Chronicle Editorial - A green future starts at home for Californians

Reference Documents

- Rulemaking
 - Pre-Rulemaking
 - Documents Relied Upon
- 2013 Standards Related Documents

- Building Energy Efficiency Standards
- Compliance Manuals
- Reference Appendices
- All docs. available online at:

www.energy.ca.gov/title24



Resources - Blueprint

- Published every other month
- Clarifications on frequently asked questions
- Receive via e-mail by signing up with list server
- <http://www.energy.ca.gov/efficiency/blueprint/>

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CALIFORNIA ENERGY COMMISSION

BLUEPRINT

EFFICIENCY DIVISION

Issue 107 January - February 2015

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Cool Roofs & Condensation

A cool roof is a roofing material with high thermal emittance and high solar reflectance, or low thermal emittance and exceptionally high solar reflectance that reduces heat gain through the roof. Because cool roofs gain and retain less heat than traditional roofs, less heat is transferred through the envelope into

the building's interior. By lowering internal temperatures, cool roofs reduce occupant demand for air conditioning, allowing for building cooling cost savings.

The temperature of the cool roof is reduced to such an extent that moisture no longer evaporates as it would with a traditional roof. When cool roofs are not installed properly, moisture condenses and becomes trapped within the roofing materials. The trapped moisture can lead to mold growth and damage to the roofing materials or supporting elements.

To prevent the trapping of moist air, it is essential to follow proper air sealing procedures as outlined in [Section 110.7](#) of the 2013 Building Energy Efficiency Standards (Energy Standards). Proper installation may require the installation of: air barriers, vapor barriers, insulation above the roof deck, and additional ventilation.

For more information on cool roofs, please review the U.S. Department of Energy's *Energy Saver* article "Cool Roofs" at: <http://www.energy.gov/energysaver/articles/cool-roofs>.

Quality Insulation Installation (QII) Compliance Credit for Insulated Headers

The 2013 Energy Standards provide Quality Insulation Installation (QII) compliance credit for R-2 insulated headers as indicated in [Section RA3.5.6.2.9](#) of the 2013 Reference Residential Appendices (RA). Insulation or wood must fill the cavities, leaving no air gaps in or around the header. To obtain QII credit, use compliance document [CF2R-ENV-21-H](#). Compliance with the R-2 insulated header requirement is verified in Section C, number 13 of this compliance document.

Three options meet the R-2 insulated header requirement:

1. Two-member header with insulation in between. The header and insulation must fill the wall cavity. Example: a 2x4 wall with two 2x nominal headers, or a 2x6 wall with a 4x nominal header and a 2x nominal header. Insulation is required to fill the wall cavity and must be installed between the headers.



Resources - Fact Sheets

- Five published to date for the implementation of the 2013 Standards
- Detailed clarifications on specific topic/requirements
- Receive via e-mail by signing up with list server
- <http://www.energy.ca.gov/efficiency/factsheets/>^{6/}

FACT SHEET

CALIFORNIA ENERGY COMMISSION

Envelope Air Sealing

2013 California Energy Efficiency Building Standards

What is envelope air sealing?
Envelope air sealing is the process of limiting infiltration and exfiltration of air through the building envelope, the interface between the interior of the building and the outdoor environment. This process includes caulking, gasketing, weatherstripping, or otherwise sealing all joints, penetrations and other openings to limit air leakage.

When is envelope air sealing required?
Envelope air sealing is required when constructing, adding to, or altering residential and nonresidential buildings.

Why air seal the building envelope?
Air sealing of the building envelope is required by [Section 110.2](#) of the 2013 Building Energy Efficiency Standards (Energy Standards) and has been required since 1982. Buildings with improperly sealed envelopes experience higher rates of air leakage, which can result in increased energy use to heat or cool the building. This in-turn can lead to increased energy bills.

What are some examples of what must be sealed?

- Exterior joints around window and door frames, including doors between the house and garage, between interior HVAC closets and conditioned space, between attic accesses and conditioned space, between wall sole plates and the exterior floor panels;
- Exterior wall air barrier at the top and bottom plates;
- Openings for plumbing, electricity, and gas lines in exterior walls, ceilings and floors;
- Openings in the attic floor, including where ceiling panels meet interior and exterior walls and masonry fireplaces;
- Openings around exhaust ducts such as those for clothes dryers;
- Field-fabricated operable windows and doors must have weatherstripping, and
- All other such openings in the building envelope.

Please see Figure 1² for common air leakage paths.

When is a compliance document required?
A CFE2R-ENV-02-E compliance document is required when a residential building envelope is constructed, added to, or altered.
An NRCI-ENV-01-E compliance document is required when a non-residential building envelope is constructed, added to, or altered.

Figure 1 - Location of Common Air Leakage Paths².



Resources - Training

- Provided by Utilities, and others (i.e. CEC, HERS Providers, etc.)
- Is free of charge
- Can be requested for training in a specific region/area
- CEC training online
- <http://www.energy.ca.gov/title24/training/>

A screenshot of the California Energy Commission website. The header includes the CEC logo, the text "CALIFORNIA ENERGY COMMISSION", and a navigation menu with links: Home, About Us, Analysis & Stats, Efficiency, Funding, Power Plants, Renewables, Research, and Transportation. Below the header is a large image of a modern office building. The main content area is titled "Title 24 Training" and contains three bullet points: 1) Education and training are important in order to understand and comply with the current Building Energy Efficiency Standards, and to use compliance software. 2) This page focuses on training; also see the Educational Resources page for other opportunities. The Energy Commission coordinates with utility partners and stakeholder organizations to offer frequent opportunities to enhance your skills and awareness of the Building Energy Efficiency Standards. 3) Please subscribe to the Building Standards Listserv to receive information about the Building Energy Efficiency Standards, Compliance Software, and educational opportunities. Below this is a section titled "Energy Standards Training" with a sub-section "Overview Webinars" containing two items: 2013 Residential Energy Standards Overview, January 16, 2014 (with links for Presentation and WebEx Recording) and 2013 Nonresidential Energy Standards Overview, January 23, 2014 (with links for Presentation and WebEx Recording). At the bottom of this section is a link for "WebEx Playback Help". On the right side of the page, there are two sidebars. The top sidebar is titled "California Utilities" and lists: LADWP - Los Angeles Department of Water & Power, PG&E - Pacific Gas & Electric Company, SMUD - Sacramento Municipal Utility District, SDG&E - San Diego Gas & Electric Company, SCE - Southern California Edison, and SoCal Gas - Southern California Gas Company. The bottom sidebar is titled "Other Resources" and lists: Online Learning Center, Energy Videos Center, Blueprint Newsletter, and BECT - Building Energy Code Training Program (offered by Consol under contract).



- Forms tools
- Free training (in person and online)
- Checklists, Trigger Sheets for building departments
- <http://www.energycodeace.com/content/home/>

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Resources - Compliance Software

- Software must be approved by the Energy Commission to demonstrate compliance
- List of approved software is available on the Energy Commission's website
- Energy Commission work-arounds posted online
- Can report issues about software & view CBECC software issues
- http://www.energy.ca.gov/title24/2013standards/2013_computer_prog_list.html



Resources - HERS Providers

- HERS Providers must be certified by the Energy Commission to train and certify Raters
- List of approved Providers and their certifications is available on the Energy Commission's website
- List of certified HERS Raters is available on certified Provider websites
- <http://www.energy.ca.gov/HERS/providers.html>



Resources - ATTCPs

- **New for 2013 Energy Standards.** Applicable to nonresidential lighting and HVAC systems/controls
- Acceptance Test Technician Certification Providers must be certified by the Energy Commission to train and certify Technicians
- List of approved Providers and their certification is available on the Energy Commission's website
- List of certified Technicians is available on certified Provider websites
- <http://www.energy.ca.gov/title24/attcp/>



Resources – Energy Standards Hotline

Toll-free in California

- Open Monday through Friday
 - 8:00 am to 4:30 pm
 - *(closed 12 pm – 1 pm for lunch)*

Call :

- 1-800-772-3300 (In CA)
- (916) 654-5106 (Outside CA)
- OR, e-mail: Title24@energy.ca.gov



Resources – List Servers

The Energy Commission List Servers (automated group e-mail) is a source of information sharing with Stakeholders:

- Sign-up at:
 - <http://www.energy.ca.gov/listservers/>
- Subscribe to the following Efficiency Lists:
 - Building Standards
 - Blueprint
 - Efficiency
- Respond to the List Server confirmation e-mail within 48 hours to finalize subscription status



Public Comments

Note to commenting participants:

- Please keep your comments under three minutes.
- Also, please submit your comments in writing to **Docket # 15-MISC-02**

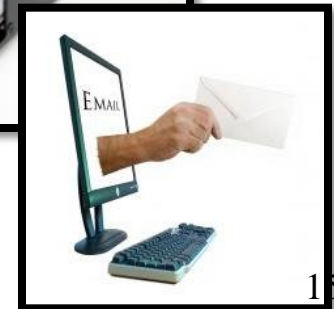




Submitting Comments

- Please keep comments within scope:
 - Issues relating to the 2013 Building Standards Implementation
- Please include “**Docket # 15-MISC-02**”
 - Submit eComment:
<http://www.energy.ca.gov/title24/2013standards/15-MISC-02/>
 - Paper copy

Energy Commission
Dockets Office, MS-4
RE: Docket No. **15-MISC-02**
1516 Ninth Street
Sacramento, CA 95814-5512





A comment about comments

Helpful Hints for submitting comments:

- Please provide specific details. For example:
 - “Form #, sentence, list...”
 - Identify the problem
 - Who is this affecting? Homeowner, business?
 - Feel free to provide suggestions





Staff Contact Information:

Rachel MacDonald (916) 654-4862

Rachel.MacDonald@energy.ca.gov

Energy Standards Hotline:

1-800-772-3300 (In CA)

916-654-5106 (Outside CA)

e-mail: Title24@energy.ca.gov