

BLUEPRINT

EFFICIENCY DIVISION

Issue 104 September - October 2014

HERS Providers Approved Under the 2013 Energy Standards

The California Energy Commission (Energy Commission) has approved CalCERTS, Inc. and U.S. Energy Raters Association (USERA) as Home Energy Rating System (HERS) Providers under the 2013 Building Energy Efficiency Standards (Energy Standards).

CalCERTS, Inc. is approved to train and certify raters for:

- Field verification and diagnostic testing for newly constructed and additions to residential & nonresidential buildings;
- Field verification and diagnostic testing for alterations of residential & nonresidential buildings;
- California whole-house home energy ratings;
- HERS building performance contractors; and
- New Solar Homes Partnership Program.

CalCERTS may be reached at:

Phone: (916) 985-3400 or (877) 437-7787

Email: general@calcerts.com

Website: www.calcerts.com

USERA is approved to train and certify Raters for:

- Field verification and diagnostic testing for alterations of residential buildings.

USERA may be reached at:

Phone: (888) 931-1116

Email: info@usenergyraters.com

Website: www.usenergyraters.com

HERS Providers are approved by the Energy Commission based upon several factors including their ability to: train and certify HERS raters, create and maintain a registry and database, provide ongoing access to the registry and database for Energy Commission staff, create a Quality Assurance Program and conduct quality assurance inspections on their HERS raters' work, and report annually to the Energy Commission certain data as required by Title 20.

What is an Acceptance Test Technician, and when does Acceptance Testing become mandatory?

Acceptance Test Technicians (ATTs) are building specialists, trained and certified by Acceptance Test Technician Certification Providers (ATTCPs). ATTs conduct required tests, submit test results and certificates to enforcement agencies, and are employed by certified ATT employers. These employers are required to have specialized training by an ATTCP. ATTCPs have developed training programs for lighting controls and mechanical systems.

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The following ATTCPs have been approved to offer training:

Lighting (interim approval)

- California Advanced Lighting Controls Training Program (CALCTP) www.calctp.org

Mechanical (interim approval)

- National Environmental Balancing Bureau (NEBB) www.nebb.org
- Testing Adjusting and Balancing Bureau (TABB) www.tabbcertified.org

Lighting Controls Acceptance Testing by an ATT became mandatory on July 1, 2014.

Currently, a mechanical contractor (or their field technician) is allowed to conduct Mechanical Systems Acceptance Testing without being certified as an ATT. Mechanical Systems Acceptance Testing becomes mandatory once reasonable access to Acceptance Test Technician Certification Programs are available and 300 technicians are certified to perform Mechanical Systems Acceptance Testing. The Energy Commission will determine when these thresholds have been met and will notify all building departments and the building industry accordingly.

CBECC-Res Update

On August 27, 2014, the Energy Commission approved an update to CBECC-Res, the public domain software for compliance with the 2013 Energy Standards, to demonstrate compliance for permit applications. With the approval of CBECC-Res Version 3, CBECC-Res Version 2 is decertified for permit applications submitted on or after October 13, 2014.

Version 3 improvements include:

- Increased speed (50% faster on average);
- Added tool to view the Log File from inside the program (to find errors);
- Calculates California Advanced Homes Program (CAHP) incentives;
- Ability to move walls/windows up or down (if they are out of your preferred order);
- Models wall furnaces; and
- Models central fan integrated system.

CF1R issues that were corrected include:

- No watermark if existing + addition has no HERS measures (additions $\leq 1,000$ ft², duct systems with < 40 linear feet in unconditioned space, or non-ducted HVAC);
- “No Cooling” will remove HERS verification requirement;
- High EER/SEER trigger levels corrected
- Zonal control and multi-speed compressor listed;
- Several special features messages corrected: default roof reflectance, no cooling with heat pumps, non-standard construction, reports miscellaneous (lighting/appliance) energy Use; and
- For Green Codes, the miscellaneous energy use is reported below the energy use results.

Visit the Energy Commission’s 2013 Approved Computer Compliance Programs webpage for links to approved compliance software and prior versions, which are now decertified, at:

http://www.energy.ca.gov/title24/2013standards/2013_computer_prog_list.html

MASTER PLAN PERMIT APPLICATIONS

When builders submit permit applications to building departments for new residential subdivisions, they often have multiple model homes or “master plan” designs to which all homes in the project will be built. Energy Commission approved compliance software is used at that time to generate registered Certificates of Compliance (CF1Rs), demonstrating compliance with the 2013 Energy Standards.

When registered CF1Rs for new residential subdivisions are submitted to and approved by building departments, builders can continue to pull permits for all the homes in the subdivision under the approved “master plan” design using the approved CF1Rs unless one or more of the approved “master plan” designs have been changed.

If one or more of the “master plan” designs have changed, then new homes within the residential subdivision affected by the change will be required to submit a new CF1R with the permit application, generated by the most recently approved version of the residential compliance software. A new CF1R is only required for plans that were changed.

Duct Sealing and Asbestos

The 2013 Energy Standards require testing of ducts, after a central air conditioning and/or heating system is installed or replaced in an existing home, with some exceptions. The contractor is required to test the ducts to determine if the ducts have been properly sealed. As a confirmation step, the duct system tightness is verified by a third-party field specialist, known as a Home Energy Rating System (HERS) rater. If a HERS rater determines that the duct system leaks more than 15 percent, the contractor will be required to properly seal the ducts at no additional cost to the homeowner.

(Note: HERS verification of duct sealing may be random, if part of a sample group).

If existing ducts are constructed, insulated, or sealed with asbestos-based materials, it is important to note that duct sealing is not required, and should not be performed. If the presence of asbestos is suspected, the homeowner should contact the Contractors State Licensing Board at (800) 321-2752 for more information, or obtain “A Consumer's Guide to Asbestos” at:

<http://www.cslb.ca.gov/Resources/GuidesAndPublications/AsbestosGuideForConsumers.pdf>

Utility Sponsored Training

Utility sponsored training on the 2013 Energy Standards and new compliance software is available across the state.

For training opportunities, please check the following websites:

- <http://energycodeace.com/>
- www.pge.com/pec
- www.sdge.com/eic
- www.sce.com/wps/portal/home/business/consulting-services/energy-education-centers
- <https://www.smud.org/en/business/education-safety/workshops-and-training/index.htm>
- <http://socalgas.com/innovation/energy-resource-center/>

To receive regular information about training and software updates, please sign-up for the Blueprint, Building Standards, and Efficiency list servers located at:

www.energy.ca.gov/efficiency/listservers.html

Q & A

Radiant Barriers

What is the minimum attic ventilation requirement when installing radiant barriers?

[Section 150.1\(c\)2](#) of the 2013 Energy Standards requires that radiant barriers meet the installation criteria specified in Reference Residential Appendix RA4. [Section RA4.2.1.1\(a\)](#) of the 2013 Reference Appendices requires a “*minimum free ventilation area of not less than one square foot of vent area for each 300 ft² of attic floor area.*” It is also required that the radiant barrier be installed according to the manufacturer’s instructions (which may have different attic ventilation requirements that must be met).

Please note that [Section 1203](#) of the 2013 California Building Code (Title 24, Part 2) and [Section R806.2](#) of the 2013 California Residential Code (Title 24, Part 2.5) both have minimum attic ventilation requirements which may differ. For a clarification on how or when those codes apply (Part 2 and 2.5), you can check with your local enforcement agency, or contact the California Building Standards Commission at (916) 263-0916.

Watt Meters

I’m a HERS rater, can you please provide information on portable watt meters, such as clamp-on watt meters, to be used on packaged units that are approved by the Energy Commission?

The Energy Commission does not maintain an approved list of portable watt meters or portable clamp-on watt meters. However, if a portable watt meter is used for Air Handler Watt Draw Verification, certain requirements must be met. It must be able to measure true power (i.e. sensor plus data acquisition system) reading an accuracy of ± 2

percent or ± 10 watts, whichever is greater (see [RA3.3.1.3](#)). Portable clamp-on type meters that read true power are recommended to provide flexibility for isolating the correct fan wires in packaged air conditioning or heat pump systems (see sections [RA3.3.1.3](#) and [RA3.3.2.2.1](#)).

Many true power measuring clamp-on meters, which are rated for higher voltage packaged air conditioning and heat pump systems, are available. An internet search for clamp-on meters will provide a large selection of available products.

Pet Doors

How do I account for a pet door installed in an exterior wall in a newly constructed residential building design?

Pet doors installed in exterior walls are considered to be doors under Title 24, and the performance approach must be used to demonstrate compliance when they will be installed. First the U-factor of the pet door must be determined by a National Fenestration Rating Council (NFRC) accredited testing lab using NFRC 100 U-factor requirements; otherwise, non-rated pet doors must assume a default U-factor of 0.99 from Table 110.6-A of the 2013 Energy Standards for a nonmetal single pane door. Second, the rated pet door shall have an air leakage of 0.3 cfm/ft² or less when tested using ASTM E283.

Note that additional insulation may need to be added to the wall if it (including the pet door) is unable to meet the mandatory minimum U-factor requirement. For example, the weighted average U-factor of the wall assembly including the pet door must not exceed a U-factor of 0.102 for a 2x4 wood frame wall assembly with R-13 cavity insulation, or a U-factor of 0.074 for a 2x6 wood frame wall assembly with R-19 cavity insulation.

Need Assistance?

Help is available! Email addresses, for various programs, are provided below.

Computer Compliance Programs

CBECC - Com (for commercial buildings)

- cbec.com@gmail.com

CBECC – Res (for residential buildings)

- cbec.res@gmail.com

Energy Pro support

- support@energysoft.com

IES Virtual Environment

- title24@iesve.com

Right-Energy Title 24

- support@wrightsoft.com

HERS Registry

CalCERTS

- tech@calcerts.com

USERA

- sbates@usenergyraters.com

Title 24, Part 6 Building Energy Efficiency Standards

Energy Standards Hotline

- Phone: (800) 772-3300 (within California) or (916) 654-5106 (outside California)
- E-mail: Title24@energy.ca.gov

The California Energy Commission welcomes your feedback on *Blueprint*. Please contact Andrea Bailey at: Title24@energy.ca.gov.

CALIFORNIA ENERGY COMMISSION

Standards Implementation Office

1516 Ninth St, MS-26

Sacramento, CA 95814-5512

(916) 654-4064

Need Help? Energy Standards Hotline

(800) 772-3300 (toll-free in CA)

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