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Training Center for CalCERTS Home Energy Rating System
Home of "Comfort Geek" Home Comfort Diagnostics
Specializing in Training and Consulting for HVAC and Energy Efficiency

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November 5, 2008

Helen Lam
California Energy Commission
Buildings and Appliances Office
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512

Reference: Docket: 08-HERS-2

RE: Title 20 Section 1673 (a) (6) - provider training of HERS raters and the need to do two homes under the direct supervision of the provider's trainer.

Dear Ms. Lam,

As president of The Sierra Building Science Center, I am pleased to see the progress made on the Phase II rulemaking by the dedicated staff at the CEC. I worked on the initial Phase I development in the early 1990's when the HERS concept and philosophy was first contemplated. Additionally, I exclusively develop the curriculum for CalCERTS HERS Training, and deliver the training to all CalCERTS Certified Raters. It is from this historical as well as current perspective that I offer these comments and suggestions.

I have been putting together the training for CalCERTS 2008 Title 24 HERS raters as well as their Existing Home Rater Training (based on Phase II work). There is one training requirement that I feel should be changed. The requirement is the one to have the trainee do two homes under the direct supervision of the rater's trainer (Title 20 Section 1673 (a) (6)). This requirement has been in place for the current Title 24 Rater training and has been added for the "Whole House Rater" training. This section is vague and onerous. I am proposing that it be rewritten. I know the history of the language of this section, which I helped develop back in the early 1990's and I feel that it is no longer appropriate.

First of all, it is very vague. It does not specify which specific field verifications or diagnostic tests need to be done on either of the two houses. So, theoretically, you could just do a TXV inspection on any two houses and meet this requirement for a California Field Verification and Diagnostic Testing Rater. Clearly that is not the intent. The intent, as I see it, is to provide actual hands on training with the diagnostic test equipment and real world experience verifying actual features rather than just lecturing to the

applicants about it in a classroom setting. Keep in mind that not only do CalCERTS and I have a very strong desire to provide good training to our raters, it is also in our best interest to provide thorough training so that we do not constantly have to answer questions or fix mistakes. Also, keep in mind that the ongoing QA requirements that raters are subject to are getting much more stringent.

Secondly, the requirement in question is onerous. I have conducted training where the entire class met out at an actual house, which the owner or a builder volunteered as a training house. This is very logistically difficult, unreliable, and intrusive. Also, there are serious liability issues with having a group of trainees in someone's house, as well as traveling to that house. It is very hard to find people willing to volunteer their home, so we can not be picky. Sometimes the house is such that we can not perform certain tests or we do not have access to certain parts of the system, making the training incomplete. In my experience as the exclusive HERS training provider for CalCERTS since 2005, more controlled hands-on training is far better than random "real homes".

Having the trainer meet one-on-one with a trainee at a house has been considered, but it is cost prohibitive. Good trainers have a significant billable hourly rate and limited time. For an average class size of 12-15 people it could take weeks or months before the last trainee can have his or her on-sites completed and it would require extensive travel for the trainer all over the state. This would be an expensive, logistical nightmare. Either scenario would greatly increase the cost and time for a person to get trained, which ultimately would reduce the number of qualified raters and potentially make training not profitable. It could also drive up the cost for raters to do business, forcing them to raise prices to the builder/homeowner.

In the current CalCERTS 2005 Title 24 HERS training we accomplish the hands-on training with "mocked up" homes in a laboratory setting. Our training labs both here at the Sierra Building Science Center and at our training facility in Southern California include a fully functional and accessible 2-ton air handler and duct system with registers, supply grilles, etc. For the purposes of Title 24 verification, these labs work very well because the skills that we are teaching are independent testing/verification protocols on specific features (i.e, duct leakage testing, blower door test, TXV verification, fan watt draw, air flow, etc.) as opposed to integrated whole house evaluation we will be teaching to a Whole House Rater. Using a lab ensures that we can cover all of the important skills and allows us to modify the conditions (e.g., tight ducts vs. leaky ducts) to give a better overall learning experience. Using actual houses would greatly limit the variety of tests we could do and the number of raters we could train while significantly driving up the cost of the training. I request that the official interpretation of the Title 20 section in question allow for laboratory set ups to be considered as meeting the requirement for the two houses for the California Field Verification and Diagnostic Testing Rater training.

For the Whole House Rater training, it is far more important that the rater have experience on actual homes because their task is an integrated whole house evaluation. However, the same logistics and cost issues arise, even more so because this is a much more thorough evaluation of a house and would take substantially more time to perform. For this training, I propose that the two house requirement be changed to require adequate laboratory training and a series of *unsupervised* evaluations of several real, but practice, homes by the trainee. For example, the classroom training could include a thorough hands-on lab for all of the specific tests, measurements, etc. that a rater would

encounter. Then the rater would be required to perform actual ratings on at least three practice houses that they choose. For instance, these could be their own house, their neighbor's house, their friend's house, etc. They would be required to submit all of their field data, including sketches and digital photographs to the trainer for review and approval. In fact, I have had success with this type of training. I currently do this type of training in the home comfort diagnostics certification that I provide .

Here is some proposed language:

The training shall require California Whole-House Home Energy Rater applicants to satisfactorily perform all individual test and verification procedures under direct supervision of the provider's trainer in an actual house, or in a hands-on laboratory setting. The applicant will also be required to complete ratings on at least three unsupervised practice homes pre-approved by the trainer, the full results and all raw field data must be reviewed and approved by the trainer. The training shall require California Field Verification and Diagnostic Test Rater applicants to satisfactorily perform all individual test and verification procedures under direct supervision of the provider's trainer in an actual house, or in a hands-on laboratory setting.

I trust that you and your colleagues will see the merit of this proposal. Please do not hesitate to contact me if you have any questions.

Sincerely,

Russell King, P.E. – Director
Sierra Building Science, Inc.

cc. Mike Bachand, CalCERTS
Doug Beaman, Doug Beaman Associates
Robert Scott, CHEERS