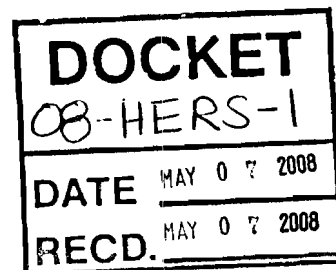




GABEL ASSOCIATES, LLC
BUILDING ENERGY ANALYSIS & ENERGY CODE COMPLIANCE

May 7, 2008

Mr. Bill Pennington
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814



Re: Draft HERS Regulations, Technical Manual and Topic Report

Dear Bill:

Unfortunately I was unable to attend the hearing last Friday on the HERS regulations. In order to provide timely feedback to the draft documents, I'm making these comments officially as my own and not representing CABEC. Although I'm reasonably confident that CABEC would take similar positions to what I express here, I don't have the time right now to organize a formal CABEC response. After these issues are brought to the attention of the CABEC Standards Committee and Board of Directors, CABEC may decide to weigh in later.

Also please note that these comments are not intended to be comprehensive, but simply a preliminary list of points that I see as most relevant.

HERS Regulations

Section 1671. Definitions. The main problem with the draft regulations is a conceptual, definitional and administrative confusion regarding the California Whole House Home Energy Rater ("CWHHE Rater"). The idea and definition of the California Whole House Home Energy Rating is fine as it's positioned in the logic and procedures outlined in the regulations. That is:

".. a process to determine a California Whole House Home Energy Rating score representing the relative energy efficiency of a newly constructed or existing residential building as compared to the Reference Home."

The CWHHE Rater is supposed to be a Home Energy Auditor and is *"also authorized by the provider to produce California Whole House Home Energy Ratings."* But what the rater is, in the clearest and simplest description, is a person who is both a certified Home Energy Auditor and a certified Home Energy Analyst. So, at a minimum, the definition of the CWHHE Rater should be written that way instead of the current language. However, I urge the Energy Commission to eliminate entirely the CWHHE Rater in the HERS regulations, and stay with the **CWHHE Rating** as the process the existing definition explains. This latter approach makes much more sense, and will be more understandable to all participants involved in the HERS rating.

Section 1672(2). Requirements for Rating Systems. I suggest deleting text as follows in accordance with the above comments: "Such ratings may be produced by ~~either a California Whole House Home Energy Rater or a California Home Energy Analyst.~~"

Section 1673(A)(3). Requirements for Providers. The regulations seem to omit the certification curriculum for Home Energy Auditors. Either add another sub-section to address that, or expand sub-section (A)(3) to explain the important subject areas for each certification (Auditor and Analyst).

One major flaw in this section is the fact that there can be significant differences, inconsistencies and confusion about the relevant certification curriculum developed by each of the providers. It is crucial that this section be revised to specify and ensure that:

- (1) The Commission and its Contractors develop the core curriculum, training materials and examinations for the different certifications. Providers could modify these if approved by the Energy Commission.
- (2) The curriculum, training materials and examinations should be designed to strongly relate to the functional competence of the practitioner.

On the second point, it's important that the Home Energy Analyst certification be thought through going backwards from evaluating what functional competence is for this category. Once that's resolved, then the right curriculum, training materials and examination will follow.

Without standardization, consensus and quality control inherent in a process directly managed by the Commission, the HERS certifications will lack credibility and are likely to be flawed. It's of the utmost importance that the Commission accept direct responsibility for creating the curriculum, basic training materials and relevant exams.

HERS Technical Manual

Section 6.3. Either leave the reference to the cost-effectiveness method as is with no algorithm (Equation 18); or put the correct units into all terms in Equation 18 with a little more explanation. I would prefer the latter.

Also, shouldn't there be an absolute value sign around the formula? If not, then it seems to me that the formula should be (Present Value of Energy Savings – Cost Premium) so that the change in Life Cycle Cost is positive when the present value of energy savings exceeds the cost premium. That is, there is a positive energy cost savings over the useful life of the energy measure(s).

Section 8.1.3 California Home Energy Analyst. An Energy Analyst should demonstrate in-depth competence in elements (B), (C), (E), (J) and (N).

In the second paragraph the Manual, there is a major condition placed on the Home Energy Analyst that the analysis be done "*under the direct supervision of a California Whole House Home Energy Rater.*" This is reasonable if the Rater definition is clear as a person who is both a certified Home Energy Auditor and Home Energy Analyst.

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If the Rater designation is eliminated as I recommend above, then the Analyst would be required to also be a Home Energy Auditor. This would make the whole system a lot simpler and improve quality control over the individuals who become Home Energy Analysts. If the Commission takes this path, then the text would be revised as follows:

"Persons certified as a California Home Energy Analyst may complete a California Home Energy Audit or a Certified Whole House Home Energy Rating using Commission-approved HERS software ~~as long as they complete the analysis under the direct supervision of a California Whole House Home Energy Rater~~. The audit or rating shall be based either upon data collected from drawings or collected at the site by either a ~~California Whole House Home Energy Rater~~, a California Home Energy Auditor, or a California Home Energy Inspector ~~directly supervised by a California Whole House Home Energy Rater~~."

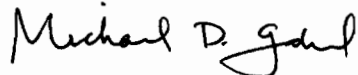
Note that this construction is much easier to understand and sacrifices nothing -- except prevent individuals with limited competence in the HERS rating calculation without also understanding many important subjects under the "Home Energy Auditor" certification.

HERS Topic Report

Task 2.5. Role of Home Energy Inspectors and Raters in Improving Home Energy Efficiency. Changes to this section should be made to be consistent with the suggested changes to the regulations and technical manual outlined above.

I look forward to hearing from you or AEC for a response to the issues I've raised.

Sincerely,



Michael Gabel
Principal