Docket # 2014-BSTD-01

To: Mazi Shirakh and Eurlyne Geiszler

Hi Mazi and Eurlyne,

Per Eurlyne's request to get feedback on proposed changes to Section 10-103 by Nov. 24th, here are my thoughts on the direction the Commission ought to be going with regard to low-rise residential HERS registration of applicable projects. First, it's important to face the facts of how the current system is and is not working.

- The only functioning "full service" HERS provider website is calcerts.com, since it allows for new construction, additions and alterations -- and cheers.org does not (yet). While our firm has learned to successfully navigate calcerts.com, it is extremely user unfriendly, un-intuitive, convoluted and unhelpful in how it works. We have to take a lot of time to assist our clients initially sign up on calcerts.com and then sign off on individual project CF-1R forms. So unfortunately, it's a fairly dysfunctional system – and the only game in town for now. It's learnable, but takes a strong commitment by individuals to work with it.

- There are still bugs in CBECC-Res showing some HERS measures on projects in which none are required, and some instances (additions > 1,000 sf) where IAQ HERS verification should be listed – but isn't. So there is not a lot of trust yet in the CF-1R accurately reporting HERS measures.

- Because of the above, many building departments have thrown up their hands and are not enforcing HERS registration of the CF-1R forms. Gina Rodda, a Principal of our firm, is one of the lead trainers statewide for the IOUs Codes and Standards team, and she's hearing a lot about this lack of enforcement.

- Finally, the consensus in the industry, including architects, mechanical engineers and other designers, is that there are way too many signatures on the nonresidential compliance forms in general; and a lot players to sign for their part within low-rise residential HERS registration of the CF-1R, installation of measures and HERS verifications.

So given all this, how should the CEC respond in re-configuring the system both short term (2013 and 2016 code cycles) and long term (2019 Stds and beyond)? Here are responses to the "Next Steps" questions to Mazi's Nov. 3rd slides at the 2016 Stds Workshop:

#1 and #2: There is definitely value in having an Installation Certificate that the Installer has to sign for accountability, and for educating installers of what's required by the Stds. But: given the way the overall system is not working well yet, the CEC should back off in the 2016 Stds and not require online sign-off of CF-2Rs. I would keep sign-off of HERS Raters of CF-3Rs, since they have to know how to use calcerts.com anyway, and can handle their part of the process.

#3: A huge bottleneck in the current HERS registration process is getting the Designer to sign off electronically on the registered CF-1R. One-time homeowners, or designers who do infrequent work, or people who have computer literacy issues – or who hardly speak English – are making the process extremely difficult, and almost impossible to work with at times. What's needed is what was available under the 2008 Stds through calcerts.com. That is, a simple one-time only form permanently kept by the Documentation Author ("DA") that the Designer/Builder /Homeowner ("Designer") signs. It gives permission to the DA to complete and sign the HERS registration of CF-1R forms on behalf of the Designer. Then the DA, with approval to move forward on any project from the Designer, can go ahead and register the project CF-1R without the Designer having to get on the HERS provider website.

There is no loss of liability or accountability connected to the Designer since he or she still must:

(a) Put a copy of the final registered CF-1R on the drawings;
(b) Wet sign that copy if requested by the building department; and
(c) Take full responsibility for the project being constructed and all systems installed per the listing on the CF-1R.

So the Designer does not get out of anything, but can avoid – if they choose to -- getting onto calcerts.com and figuring out how to get through that maze. The CEC loses nothing, but HERS registry implementation becomes much smoother and easier for all concerned.

#4: Many building departments, knowing the bugs and problems in CBECC-Res forms and the difficulties of using calcerts.com, are not enforcing the HERS registration of CF-1R forms. If and when the CF-1R forms are 100% accurate in listing correctly which HERS measures are applicable for any given project, building departments should then be able to feel confident making sure CF-1R forms are registered when indicated. Beyond that, some building departments might take the next step and – before final inspection and Certificate of Occupancy – actually go online and check to make sure that all HERS verifications (on the CF-3R forms) have been completed. However, a simpler online system to use may be necessary to get this kind of buy-in from enforcement personnel (see response to #5 next).

#5: Here are the priorities:

(1) Get CBECC-Res working properly so that it **always** generates the correct listing on the CF-1R of what HERS measures must be verified for any given project (and the correct presence or absence of the watermark saying "*This project not yet registered* .. ". We're still not there yet.

(2) Use my recommendation in response to #3 above, something that was available under the 2008 Stds.

(3) Develop a minimum specification for functionality and ease of use of HERS provider websites for the 2016 Stds. The CEC cannot dictate how a website is designed, but could ensure a reasonable number of minimum capabilities (e.g., like ACMs) to push HERS providers to implement more user-friendly and transparent online systems. Right now, for example, calcerts.com does not automatically send an email to the Documentation Author when the Designer signs off – something that was working under the 2008 Stds but not under the 2013 Stds. That should be required.

#6: I don't know the answer to this one, except – regarding enforcement – that the CEC should resurrect a program it had 15 or so years ago. A CEC Contractor was paid to visit local building departments, review their process of plan check and field inspection on several real projects, and do hands-on on-site training over the course of a few days. There was nothing punitive or shaming if they were doing a poor job to start with.

Another comment on this question: the Commission should not be focusing so much on future data collection at the expense of other more effective means to implementing better building energy efficiency through the Standards:

- Significantly improving CBECC APIs (Res and Com software)
- Looking at eventual Title 20 recognition of Certified Energy Analysts (CEAs) who would be required to perform Low-rise Residential Title 24 Part 6 performance calculations
- Having the IOUs Codes and Standards trainings for building departments focus on a smaller volume of material but address primarily high-value plan check and field inspection procedures to improve compliance
- Simplify code wherever possible – right now it's an enormous beast that even full-time specialists like us still struggle with

#7: Right now there are way too many signatures required, especially on the prescriptive forms. Those need to be greatly reduced. With regard to nonresidential registries:

a) Develop a minimum specification of what any nonresidential registry needs to be able to do (see #5 above);

b) For the first code cycle in which it's required, require upload only of Certificates of Compliance – but not worksheets that only document calculations for specific aspects of compliance.

c) Hold off on requiring uploads of signed Acceptance forms until nonresidential registries are up and running and proven to be working reasonably well. Then consider how to add Acceptance forms in the following code cycle.