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Comments regarding 2022 changes for additions and alterations

Additional submitted attachment is included below.

September 14, 2020

To: California Energy Resources Conservation and Development Commission
Re: CalCERTS' comments regarding CEC proposed changes to 2022 Energy Code for additions and alterations. Docket # Docket No. 19-BSTD-03

CalCERTS, Inc. appreciates this opportunity to provide feedback to the California Energy Commission. CalCERTS, Inc. is the largest HERS Provider in the state. We train, certify, and provide quality assurance on the majority of HERS Raters in the state. HERS Raters are the third-party special inspectors that provide field verification and diagnostic testing to assist in the enforcement of the Title-24, part 6, Energy Codes. Our comments stem from our mutual goals of:

1. Improved compliance with the energy code
2. Simplified and streamlined protocols and procedures
3. Reasonable alternatives to compliance options
4. Enforceability of the requirements

We request to be involved with the development of the details of any new verification protocols. CalCERTS appreciates the hard work and dedication by CEC staff and consultants and their roles in meeting the above goals.

Comments Regarding CEC Staff and CASE Study Recommendations Presented on the 9-1-20 webinar regarding proposed changes for additions and alterations

General Comment: For non-HERS alterations projects, we highly recommend streamlining the documentation process and incorporating detailed instructions into the CF1R forms. We recommend unique CF1Rs for individual measures (roofing, windows, water heater, opaque surfaces) as well as one for multiple measures. Our experience training and helping building departments through the BayREN Codes and Standards program has shown that single measure projects are more common and that the current multiple measure forms, even the dynamic ones, are very confusing because they often ask for information that is irrelevant to

the project. BayREN's permit guides are good examples of how to make the compliance process more organized and logical.

Regarding the Revised Duct Leakage Targets: We believe that the 10% maximum duct leakage target (reduced from 15%) is reasonable, however only basing the maximum duct leakage target on measured system airflow rather than a simple default airflow will cause a lot of confusion and frustration in the field. It is not always possible to measure airflow in an existing house. In fact, it can be quite challenging in some homes, examples include, inaccessible return grilles (too small to fit flow hood over or too high in a ceiling), numerous returns, extra-large return grilles, etc. Currently, for projects where only duct leakage testing is required, the HERS rater will usually not measure airflow and will simply use the 400 CFM per nominal ton of cooling. Under the proposed change they will be required to measure airflow for every duct leakage test. There will be situations where this is not possible or extremely difficult. This requires additional time and diagnostic equipment. It is an added cost that might not have been factored into the cost effectiveness study. There should continue to be a nominal cfm/ton value option for determining airflow. The CFM per nominal ton value could be substantially lower than 400, but raters and installers need that option for houses where airflow can't be easily measured.

Additionally, as the Commission is aware, proper duct design and good system airflow is a challenge, even in newly constructed homes where the target is set at 350 cfm/ton. Measured system airflow in homes is likely to be substantially lower than 400 cfm/ton, especially for existing homes. So, not only is the target leakage percentage getting lower, but so will the number that the percentage is applied to. (currently: 0.15×400 vs. proposed: $0.10 \times$ something substantially less than 400) This will ultimately drive more projects to use the smoke test option (sealing all accessible leaks and passing by smoke test). We highly recommend that CEC staff really clarify the protocols for that option (RA3.1.4.3.6) by surveying HERS raters who are familiar with the process and incorporating their suggestions. The current protocols leave too much room for interpretation.

Regarding heat pump water heater (HPWH) replacement for electric resistance water heaters: We teach HPWH classes for BayREN and have worked with SMUD on their water heater replacement program. As much as we support HPWH installations, we believe that the additional first cost of requiring homeowners to replace an electric resistance water heater with a HPWH (an estimated increase of \$2000 per water heater, according to the CASE report) will drive a lot of people to not to get permits. Lesser steps that could be taken is to modify the code to prohibit replacing HPWH with electric resistance. You could also modify the code to prohibit replacing propane water heaters with an electric resistance water heater, which is currently allowed. I think utility and local government rebate programs are the best way to get people to install HPWHs.

Thank you for this opportunity to comment on the 2022 code. We look forward to the Commission's feedback on this issue.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell King", with a long horizontal flourish extending to the right.

Russell King, M.E.
Senior Director of Technical Services,
CalCERTS, Inc.