

PSD Comments on Proposed HPwES Changes.

General Comments

We applaud EPA and DOE for this effort. Creation of an industry requires standards. We suggest that EPA and DOE work with BPI to form a representative committee of programs, contractors, scientists and manufacturers of test equipment to help develop subsequent drafts. This could evolve into a standards development process similar to the one used by RESNET. An external standards process will help attract investment capital.

Certificate

The proposed certificate concept contains the proper elements to help increase consumer knowledge and to assist in the real estate sales process for a retrofitted house.

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Term – A descriptive term that builds on public terminology is “diagnostic energy audit.” This term includes the common “energy audit” and then differentiates these audits from the run of the mill energy audits by using the “diagnostic” modifier.

Billing Analysis – Simulation modeling is greatly improved by calibration to actual data. Models typically over predict the performance of poorly performing houses for a range of reasons. Calibration can be a simple process and provides the consumer as well as the program with greatly improved information. Calibration is also a recognized standard for the verification of savings under the International Performance Measurement and Verification Protocol (IPMVP). Creation of an infrastructure that can adhere to IPMVP protocols can increase the value of Home Performance both inside programs and outside programs. Calibration will also improve the reliability of savings estimates when HPwES programs are evaluated.

It seems likely that calculation of savings and performance based incentives (tax credits, carbon credits, forward capacity market, etc.) will require or be facilitated by the verified calculation of savings. EPA and DOE should be strongly encouraging programs to teach contractors to calculate savings using simulations so that an external requirement for calculation of savings arrives, the contractors business models will already accommodate modeling. If the infrastructure of contractors does not learn to model, then they risk oversight and calculation of savings by the energy rater community.

EPA and DOE can help to reduce the time taken to accomplish this task, as well as post retrofit tracking, by supporting the development of data transfer protocols for billing information and supporting the development of mechanisms for utility customers to easily redirect electronic energy and billing information to third parties.

Programs that do not require calculation of energy savings up front risk a heavy lift to convince contractors to adopt energy calculations into their business process at a later date.

Radon – Information on radon testing should be required. Addition certification as a radon tester should be encouraged but not required by EPA and DOE. Programs in high radon areas could require additional training and/or certification. Radon home test kits are available and can be promoted or provided through the program.

Duct testing – Duct testing is a two part issue, first, determining if there is a problem worth treating, then determining if the solution has been effective. Since the process of determining if there is a problem is part of the diagnostic energy audit and is done on all homes inspected before there is a contract, the desire is to keep the time used and cost as low as possible. Sealing off ducts is often very difficult in an existing home. Improperly sealed ducts make duct leakage tests less accurate. So, what is a reasonable test that will allow a contractor to correctly recommend duct improvements? Delta Q would be very helpful here. Accuracy requirements are not high (making Delta Q more useful), since the test only results in a recommendation for improvement. If improvements are done, a subsequent performance test is important. This could include an additional pretest using a test with greater accuracy. Location of ducts also impacts this test. In the Northeast ducts are typically in the building envelope and the impacts from duct sealing are reduced. Correspondingly, on houses with ducts in the building envelope (supply and return) duct testing is not as valuable.

This is an area needing more work, in the form of a collaboration between contractors and scientists and manufacturers. The test needs to support the business process, not just be shown to be accurate. Accuracy requirements vary with the program, the duct location and the type of incentives being provided. For example, a utility program that provides a performance incentive based on duct leakage to outside reductions needs a higher level of accuracy of both pre and post testing than a program that uses an incentive based on a calibrated simulation. BPI standards should be adjustable based on the program design. A matrix of testing approaches based on several program types would not be difficult to create. In reality, BPI is providing guidance for programs not just for contractors operating in the market place. BPI testing standards should be adjustable based on the circumstance instead of one size fits all.

Air flow testing – The most accurate test for airflow is a powered flow hood. A duct blaster is equipment that can be used to do this test, not the test itself. Many of the same issues affecting pre and post duct leakage testing also apply here. This is an area where an equipment installation certification could be useful if the equipment certification was an extension of the HPwES program.

This is another area where a sit down between BPI, the contractors, the scientists, the program operators and the equipment manufacturers could provide some consensus. The key is understanding the different requirements set up by incentive structure, and program QA requirements.

Note that a program that paid contractors partial or adjusted incentives based on actual savings would solve many of these problems by penalizing contractors for over stating savings.

Audit Process

If the diagnostic energy audit is delivered as part of a program that includes a screening audit, a number of the baseload measures will already be addressed by the preliminary screening audit

The full scope of the proposed audit may only be accomplished if there are significant contractor incentives and a QA process that checks the audit reports and data.

Reporting

How will EPA and DOE estimate savings? Work done is often not comprehensive. Requiring the information necessary for the certificate to be reported would seem to provide EPA and DOE with enough information to reasonably estimate savings.