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January 3, 2008

TO: Docket #07-BSTD-1, 2008 Building Energy Efficiency Standards

RE: Buried Ducts Requirements

The concept of buried ducts is to make the best of an unfavorable situation. The attic is typically the hottest part of a home during the summer, yet that is often where most of the ductwork is located. Rather than suspend HVAC ducts across the top of the attic, where the temperatures are the highest, it makes a lot of sense to install them along the attic floor and bury them in insulation. In some cases it can even be quicker and less expensive to install the ducts this way. Yet much of the industry continues to ignore this measure.

One primary reason that this credit is avoided is that its requirements are unclear. According to the 2005 CF-4R, the HERS rater must perform a “supply duct surface area reduction” inspection, which includes filling out a table listing all duct surface areas and their location. This implies that the HERS rater must take duct length and diameter measurements, which is very time consuming in most cases and nearly impossible in some. The CF-4R also requires Adequate Airflow and Quality Installation Insulation (QII). Section 3.12.4 of the ACM manual indicates that Tight Ducts (not mentioned on the CF-4R) and QII are required along with a verified duct design, with no reference to Adequate Airflow.

On the other hand RA3.1.4.1 states that “compliance credit may be taken for one or more of these duct system improvements in any combination”, referring to Duct System Design Requirements (RA3.1.4.1.1), Verifying the Duct System Installation (RA3.1.4.1.2) and Verification of Ducts Buried in Attic Insulation (RA3.1.4.1.3). Besides the installation protocols, RA3.1.4.1.3 states that in order to take the buried duct credit Tight Ducts must be taken (RA3.1.4.3) and that the ceiling insulation must be verified. Also, Table RA2-1 states that Adequate Airflow is required for any of these duct system improvement credits. Therefore according to the reference appendices the only requirements for buried ducts are Tight Ducts, Adequate Airflow and ceiling insulation inspection; there are no requirements for duct system design or surface area verification.

CBIA requests that the above interpretation of the requirements for buried ducts according to the reference appendices, which are acceptable to the building industry, be confirmed by the CEC. If this is the case, then the compliance documentation (CF-6R, CF-4R, etc.), the ACM Manual and compliance software need to be revised to mirror these requirements.

Sincerely,



Michael G. Hodgson  
Chair, CBIA Energy Committee



Robert E. Raymer  
Technical Director, CBIA

cc: Jackalyne Pfannenstiel, Chair and Presiding Member, CEC  
Arthur H. Rosenfeld, Commissioner and Associate Member, CEC  
Bill Pennington, Buildings and Appliances Office, CEC  
Mazi Shirakh, Buildings and Appliances Office, CEC