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PO Box 480 2720 Sumner Ave. Aberdeen, WA 98520-0109

## **Proposed change for 2005 C&RD Program Non-cost effective use of blower door/duct leakage tests**

### **Problem:**

Current specifications require (or suggest) multiple blower door and duct leakage tests when installing a heat pump, and dictate that preliminary results of these tests be used in the heat pump equipment sizing.

### **Analysis:**

Duct leakage has been found to be a serious problem with heating systems throughout the Pacific Northwest, especially existing duct systems. Improvements in duct leakage test equipment in the past decade have led to a natural progression of modern duct sealing – the ducts are tested and sealed by one contractor in one site visit. In existing ductwork, this reduces leakage to acceptable levels in the overwhelming majority of heat pump installations. In new ductwork, local utilities often require the heat pump contractor to ensure that ductwork meets stringent leakage requirements.

Infiltration can also be a factor in inefficiency of heating systems and increased energy consumption. Utilities have been weatherizing homes for decades, and weatherization contractors have been using blower door tests to verify envelope performance for at least two decades. Trained energy auditors can easily spot potential infiltration problems and deal with them cost effectively using weatherization contractors.

Using results of these tests in equipment sizing would require that remedial actions (duct and envelope sealing) be taken prior to the customer receiving a bid from the heat pump contractor, since it certainly does not make sense to size a heat pump for leaks that will be remedied later. In the real world, customers want to know how much something will cost before deciding whether to proceed with a project.

Overall, the practice of requiring multiple blower door and dust leakage tests doubles the cost of testing in the measure, and additional benefits are limited to a very small percentage of cases.

### **Proposed Solution:**

Eliminate the requirement for multiple blower door and duct leakage testing. Utility personnel may determine if excessive infiltration or duct leakage is a potential problem during pre-project inspections or energy audits, and have these problems

dealt with by the proper trades. Heat pumps should be sized according to acceptable standards for duct leakage and envelope integrity, as these can be achieved in all but rare cases.

Questions or comments may be directed to:

Kevin J. Howerton, P.E.

Grays Harbor PUD

Sr. Key Accounts Rep.

(360) 538-6325

[khowerton@ghpud.org](mailto:khowerton@ghpud.org)