



March 23, 2005

Rachel Schmeltz  
Energy Star Product Manager

Dear Rachel:

Thank you once again for the opportunity to provide comments on the DRAFT document *Options for a New ENERGY STAR<sup>®</sup> Specification for Residential Air-Source Heat Pumps and Central Air Conditioners*. *I have added to my earlier response, and have included more information and feed back from a variety of industry sources. I have included a list of people who either have contributed financially in the development of the Enalasy verification platform and/or agree with the concept of diagnostic field verification of HVAC systems. I put an (\*) in front of all the new information I have added to my last response.*

Enalasy is an information and verification services provider empowering HVAC contractors, HVAC Equipment Manufacturers, Insurance Companies, Electric Utilities, Builders, and local and State Governments with leading, state of the art, accurate instrumentation and remote data collecting technologies and procedures.

We provide comprehensive training and certification of HVAC technicians who use our processes to do a comprehensive “test-in” to analyze the performance of HVAC equipment and the distribution system. This is accomplished by the technician deploying a number of wireless sensors to measure all of the necessary indices required to determine the performance of the HVAC system. A laptop computer receives, processes, and stores the data. It provides graphs showing the real-time performance of the system, as well as providing “real time” recommended corrections/adjustments to optimize the performance of the HVAC system. This provides a rapid (on the site) feedback learning process to the technicians as they perform the necessary diagnostic procedures to discover and correct deficiencies in the HVAC system. Once the deficiencies have been corrected, the technicians do a “test-out” to verify optimized performance of the HVAC system, as well as quantifying the improvement of the system. Upon returning to their office, the technicians upload this data from each job to a central database which provides this information to the “sponsoring entity” which could be an OEM, utility, builder, or local, state or federal agency.

We currently have over 300 Honeywell Enalasy Alliance members (HVAC contracting firms) nationwide and have either been involved or are involved in over 25 utility and state projects including currently Pacific Gas & Electric's CPUC funded charge and airflow program.

Here are our comments:

The over all direction of the 2006 Energy Star VSP initiative is excellent, and is in line with the market approach Enalasy and many industry leaders, both public and private, have invested millions of dollars. Enalasy and its partners have alone invested over six years and \$16 million dollars.

### Chapter III Options for Field Verification of Proper Installations

#### 3) Third-Party Verification Services

Please consider adding under this section another option allowing certified contractors who are trained to use Energy Star Approved and Registered diagnostic methodologies and data collection processes to do test in and test outs that use an electronically collected and analyzed process. This offers a system that effectively minimizes or eliminates the probability of "gaming" the system.

Another significant and major advantage in using this type of electronic data acquisition is that it completely removes the large expenditure and logistical coordination of an independent 3<sup>rd</sup> party checking the systems. This is one of the largest barriers being experienced in the field verification processes today. This will help the rapid adoption nationally of the use of diagnostic testing systems in the HVAC industry. Our open protocol and processes economically allows 100% system verifications which provides additional value to the HVAC contractors business with rapid data collection processes and immediate feedback. This is a continuous feed back loop which will improve the skill and knowledge level of the technician. It will help provide a sustainable technology transformation in the HVAC repair and installation industry.

The above option can be augmented for additional auditing and quality control process by requiring a random selection of one in thirty (30) systems to be tested by the verification service provider and adding a red-flag decertification of the HVAC firm when the verification service provider detects fraudulent

results. Training certification would be provided by the Verification Service Provider or approved agent of the Verification Service Provider.

*\* Please add: The entity which EPA selects to evaluate verification programs, systems and processes shall have no financial or vested interest in any of the programs, systems and processes being evaluated. Additionally, all diagnostic equipment and processes will be evaluated and included in EPA's Energy Star HVAC systems field verification program, if they meet and achieve EPA performance specifications.*

*For field verification programs that use electronic data collection, they shall*

- collect data from participating installers for each installation completed,*
- complete data checking analysis to evaluate the validity and accuracy of the data to independently determine whether proper installation has been achieved,*
- provide direction to the installer to retest and correct problems when data checking determines that compliance has not been achieved,*
- require resubmission of data when retesting and correction is directed, and*
- maintain a database of all data submitted by installers in a format that is acceptable to the EPA and will be available to the EPA upon request.*
- For field verification programs that use electronic data collection, the data*
- shall provide an independent check on the validity and accuracy of the installer's claim that proper installation has been achieved, and*
- shall not be alterable by the installer to indicate that proper installation has been achieved when in fact it has not been achieved, and*
- The data base platform will use a combination of statistical analysis and error checking algorithms to do comparisons of reported values in order to identify possible "gaming" of the system of installation compliance. Safe guards and security guarding against such gaming should hold top priority for the success of the program.*

- *Please consider adding: When it is a requirement of the State and/or the local building authority to obtain a building permit when installing a HVAC system or components, the participating contractor must list the permit number along with verification data for each installation.*

*Source: California Title 24 2005 Building Standards Paragraph 7.6 of the Residential ACM Manual*

*Note: Some information was altered to meet EPA's CAC, ASHPS performance criteria.*

*\*Rachael, it is very important to note that the cost is lower to do charge and airflow verification, with the Enalasy diagnostic process, and it is faster and more accurate than traditional charging methods. The use of the Escan (ChargeRite) system adds little additional set up time and ultimately reduces the total amount of time a technician will spend on a typical service call.*

The auditing and quality control process gives, HVAC manufacturers, HVAC contractor's builders, and utilities a choice to choose a Verification Service Provider that will not infringe upon their core business. This will result in an opportunity to allow market innovators and HVAC business owners to offer value added services to their customers.

Thank you for allowing Enalasy and our partners to be a part of this very important industry issue.

Eric Taylor  
CEO  
Enalasy Corporation  
Calexico, California  
760-353-7693

*TVA and Public Power Institute (Dan Lamb)*  
*Energy Right (Cindy O'Reilly)*  
*Middle Tennessee Electric (Tom Moreland)*  
*National Rural Electric Cooperative Association (Karen Sawyer, Steve Lindenburg)*  
*California Energy Commission (Randel Riedel)*  
*PG&E (Dionne Green)*  
*GoodCents Solutions (Lynn England, Roger Gray)*  
*Lodi Electric (Rob Lechner)*  
*CHEERS (Tom Hamilton)*

*California Building Performance Contractors Association ( Tim Locke, Bob Knight)*

*American Synergy (Dave Clark, Steve Shallenberger, Doug Price)*

*Locke Air conditioning (Bobby Locke)*

*Energy Doctor (Gary Heederik)*

*Home Scan (John Faircloth)*

*FEMA (Barry Moline)*