

RESIDENTIAL REPORT

news and views from SMACNA's National Residential Council



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SMACNA Contractor Installs HVAC System In Pennsylvania's Second LEED Home



SMACNA contractor Total Comfort Solutions installed the HVAC system for the second LEED home in Pennsylvania, which is in Doylestown.

SMACNA contractor, Total Comfort Solutions (TCS), of Philadelphia, installed the HVAC system for the second LEED home built in Pennsylvania. Located in Doylestown, Pa., the pioneering “green” home was the first in the state to be registered for certification in the Leadership in Energy and Environmental Design (LEED) building program, but construction on another LEED home was finished first. It was, however, the first LEED home in Bucks County.



Note that both the supply and return air duct are ducted. All the duct joints were sealed with mastic.

The owner and designer of the house, David Hartke, an architect who incorporates green principles in his designs, said that the energy-efficient ventilation and heating system was one of the key components necessary to obtain the green rating. Hartke, a principal of Stampfl Hartke Associates who is known in Pennsylvania as an expert on sustainable design, pointed out that the energy and ventilation system is the feature he “concentrates on most” in creating and promoting sustainable buildings because of its impact on resources and operating costs.

The home incorporated special design techniques to fit the highly efficient HVAC system into the architecturally challenging home.

TCS designed the entire HVAC system and performed all of the heat gain/loss calculations. In addition, the firm furnished and installed all layout and sizing for the galvanized sheet metal supply and return air trunk ductwork. Equipment and materials included geothermal equipment, a Carrier variable speed air handler, galvanized ductwork, media air cleaners, duct sealant, programmable thermostats and R-8 duct insulation. The ductwork was fabricated in the TCS shop.

Home Energy Raters Program A Significant Business Opportunity

Residential contractors across the country are looking for ways to broaden their work capabilities while dealing with the ups and downs of the residential market sector. One option for expanding work portfolios is to become Home Energy Raters (HERS) through the Energy Star Program. A home energy rating involves an analysis of a home’s construction plans and on-site inspections. The demand from builders for home energy ratings is growing. Every year, builders across the United States construct more homes which they want qualified as Energy Star. This could be a significant business opportunity for residential contractors.

Homes earn the Energy Star label when an independent third-party verifies that they meet Energy Star guidelines. Home Energy Raters are trained to evaluate construction techniques, take key measurements, and perform inspections. The new Designed to Earn the Energy Star label provides an additional business opportunity for Home Energy Raters working with EPA’s Energy Star as architects and plan designers will need these services. Home plans that are Designed to Earn the Energy Star must be independently reviewed and verified by a Home Energy Rater.

Based on the home’s plans, Home Energy Raters use an energy efficiency software package to perform an energy analysis of the home’s design. This analysis yields a projected, pre-construction HERS index. Upon completion of the plan review, the rater will work with the builder to identify the energy efficiency improvements needed to ensure the house will meet Energy Star performance guidelines. The rater then conducts on-site inspections, typically including a blower door test (to test the leakiness of the house) and a duct test (to test the leakiness of the ducts). Results of these tests, along with inputs derived from the plan

review, are used to generate the HERS index score for the home.

Contractors looking for information on the Energy Star Program and the HERS Rating Program can visit the [EPA Web site](#).

Give Your Customers A Heads-Up — R-22 Refrigerant Phaseout Near

Ozone-Depleting Refrigerants Are Used Widely In Air-Conditioning Systems

Homeowners Should Understand Impact on their Cooling Systems, Future Equipment Decisions

Let your customers know that in just six months, the United States will significantly reduce its production of a refrigerant used as the coolant in the majority of air conditioning systems operating today.

Owners of home cooling systems, including dehumidifiers, central air conditioners, air-to-air heat pumps, ground-source heat pumps, and ductless air conditioners will be affected by the next major step in the phaseout schedule of the ozone-depleting refrigerant known as R-22. On Jan. 1, 2010, the United States will prohibit the use of new R-22 in new systems; however, existing R-22 can be removed from equipment and recycled and reclaimed to be used to recharge existing equipment. In addition, a smaller quantity of R-22 will be produced until 2020 to service existing systems. Some states may have different requirements, so contractors should know their state's regulatory requirements.

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) provides the following guidance for equipment owners based on frequently asked questions received from visitors to the [PhaseOutFacts Web site](#):

- 1. Know Your Refrigerant.** Look on nameplate on the outdoor unit of your air conditioner; it should identify the refrigerant. If you do not see it on the nameplate, check your owner's manual or contact the HVAC contractor who installed your system to obtain the information. If you know the manufacturer and model number, you could call the manufacturer or check its Web site.
- 2. You don't have to dispose of equipment using R-22 and can keep using your R-22 system.** The [phaseout period](#) was developed to provide equipment owners with enough time to switch to ozone-friendly refrigerants when they would normally replace their air conditioner or other equipment. This transition is important because supplies of R-22 will be more limited after 2009, which may cause the price of R-22 to increase. Starting in 2020, new R-22 will no longer be produced, so consumers will need to rely solely on remaining supply or reclaimed refrigerant to service any systems still operating after that date.
- 3. You can still purchase R-22 systems.** These systems will continue to be manufactured until the end of 2009. If you purchase a new system using R-22, you should be aware that supplies of R-22 will be more limited after 2009.
- 4. Systems using alternative refrigerants that do not harm the ozone layer are available and widely used in air conditioning and refrigeration systems today.** EPA maintains a full list of acceptable substitutes for household and light commercial air conditioning through its [Significant New Alternatives Policy \(SNAP\) Program](#).
- 5. R-22 systems can be recharged and serviced.** For the next 10 to 15 years, R-22 should continue to be available for all systems that require it for servicing, but the supply is expected to be greatly reduced after 2009.

6. **Make sure new parts or systems are properly matched.** Heat pump and air conditioning systems using alternative refrigerants like R-410A have been redesigned to work with this refrigerant. With these significant changes, it is imperative that you replace both the indoor and outdoor units of your system or it will fail. Work with a qualified HVAC contractor to make sure that he will be installing a certified matched system. Ask for an AHRI Certificate of Product Ratings.

7. **Minimize your system's impact on the environment.** If you have equipment that contains R-22, the most important thing you can do is to maintain it properly to minimize potential leaks. Work with a qualified contractor, who employs EPA-certified technicians, to perform regular system maintenance. They are required to use refrigerant recovery equipment during service; it is illegal to intentionally release any refrigerant when making repairs. Request that technicians locate and repair leaks instead of "topping off" leaking systems.

About AHRI

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of air conditioning, heating and commercial refrigeration equipment. An internationally recognized advocate for the industry, AHRI develops standards for and certifies the performance of many of these products. AHRI's 300+ member companies account for more than 90 percent of the residential and commercial air conditioning, space heating, water heating, and commercial refrigeration equipment manufactured and sold in North America.

Energy Star Update: Tax Credits Available For Energy Efficient Home Improvements

Now is the time for HVAC contractors to remind homeowners they can save money and energy consumption by updating their HVAC equipment. Thanks to the American Recovery and Reinvestment Act (ARRA) stimulus bill, the federal government has expanded and extended the tax credits for homeowners who make energy efficiency home improvements to their homes.

The economic stimulus bill, which was signed into law in February, has boosted tax credits to 30 percent of the cost, or up to \$1,500, for HVAC equipment for existing homes, and extended the tax benefits for home improvements through 2010.

Tax credits for HVAC improvements include central air conditioners; air source heat pumps; natural gas, propane, or oil furnaces; gas, propane, or oil hot water boilers, and advanced main air circulating fans.

According to the U.S. Environmental Protection Agency (EPA), high-efficiency heating and cooling can reduce home energy needs by 20 to 30 percent. The Energy Star program, a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy, was developed 16 years ago to help consumers save money and protect the environment through energy efficient products and practices. Many new homes, household products, and appliances have earned the Energy Star label, and meet strict energy efficiency guidelines.

The stimulus bill made significant changes to the energy efficiency tax credits. Previously, the original tax credit expired in 2007 and was revived as part of the Emergency Economic Stabilization Act of 2008. Highlights of the new stimulus bill include:

- Tax credits that were in effect for 2009 have been extended to 2010.
- The tax credit has been raised from 10 percent to 30 percent.
- The tax credits that were for a specific dollar amount have been converted to 30 percent of the cost.

- The maximum credit has been raised from \$500 to \$1,500 total for the two year period (2009–2010). (However, some improvements such as geothermal heat pumps, solar water heaters, and solar panels are not subject to the \$1,500 maximum.)

For more information on the federal tax credits available, visit the [Energy Star Web site](#). The Alliance to Save Energy (ASE) also provides information on energy–efficiency home tax credits. For additional information, visit the [ASE Web site](#).

Shedding New Light In Crawlspaces

Although crawlspaces have been used for centuries in America, until recently there has been virtually no concerted effort to study and understand the best practices in terms of construction, insulation and ventilation. The following article, “New Light in Crawlspaces,” published in May 2008 in the ASHRAE Journal, addresses how the crawlspace fits into the overall thermal and moisture performance of a building.

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States Receive Stimulus Money To Weatherize Homes

States are receiving a huge increase in federal stimulus money to weatherize drafty homes and provide more jobs to construction workers.

A program that installs insulation in homes and makes them more energy–efficient is distributing \$4.7 billion in stimulus funds — dwarfing the \$447 million originally planned by Congress this year and the \$227 million spent in 2008. That is enough to weatherize 1 million homes, instead of the 140,000 normally done each year.

President Barack Obama said pouring money into the program would lower utility bills for cash–strapped families, provide jobs for construction workers idled by the housing slump, and make the nation more energy–efficient. "You're getting a three–fer," Obama said. "That's exactly the kind of program we should be funding."

The program helps low–income families take steps to reduce their home energy expenses, from caulking leaky windows to replacing heating and cooling systems. The Energy Department says 6.2 million households have benefited since it began in 1976, saving the average household about \$350 a year on energy bills.

The funding for New York is going up from \$20.1 million last year to \$395 million. California's share is soaring from \$6.3 million to \$185.8 million. Virginia's is going up 23 1/2 times, from \$4 million annually to \$94.1 million. "I was stunned," said Shea Hollifield, Virginia's deputy director of housing. "Spending that much money will be a challenge."

In Texas, the state's share is increasing nearly 60 times, from \$5.6 million to \$327 million. To spend the money efficiently and on time, state officials decided to go beyond the community organizations that

normally distribute it and route \$100 million to large cities. "They have experience in administering large, complicated programs," said Gordon Anderson, spokesman for the Texas Department of Housing and Community Affairs.

States are hurrying to find qualified weatherization workers and caulk-ready homes. Wisconsin set up weatherization "boot camps" to train workers. West Virginia used to give new workers on-the-job training but is now looking to move to classrooms and online. Alabama plans to train home builders how to bid for weatherization contracts. Russell Davis, vice president of the Alabama Home Builders Association, said builders who once had no interest in weatherization contracts now see them as a way to keep their crews busy.

(Source: Associated Press/AP Online)

Heating And Cooling Maintenance Rebate For All Union Workers

To help union members maintain their home's heating, ventilation and air conditioning (HVAC) system, make it more efficient and lower energy costs, Union Plus is offering a \$50 rebate to all union members who use their Union Plus credit card to purchase an annual heating and cooling system maintenance agreement with a union HVAC contractor. Union Plus represents many different unions who can take advantage of this program including the Sheet Metal Workers' International Association (SMWIA).

Union members are instructed to search SMACNA's [HVAC Expertise Web site](#) for an HVAC contractor that employs members of the Sheet Metal Workers' International Association. Make certain your company's listing is up-to-date. Contact SMACNA at memberservices@smacna.org to give SMACNA your company's contact information.

Nashville Welcomes The Best At Comfortech 2009

Join accomplished contractors and learn from some of the country's most noted experts in the residential field at HVAC Comfortech 2009, at the Nashville Convention Center in Nashville, Tenn., on Sept. 23-26, 2009.

Contractors will take home the best thinking and the newest ideas for better business management, marketing, sales and technology from the event's seminar sessions, which are packed with programs on the most challenging issues facing today's contractors. Attendees can also explore new products and technologies at the Product Showcase featuring more than 200 of the industry's major suppliers of equipment and services.

To find out more information, visit the [HVAC Comfortech 2009 Web site](#).

Learn The Latest Best Practices To Increase Sales, Margins, And Close Rates

On Monday, Oct. 12, contractors at SMACNA's annual convention in Palm Desert, Calif., won't want to miss the Residential Contractor's Forum where they will learn how to get the highest job selling prices, the best close rates and top-rate profit margins.

The best sales practices of the best HVAC in-home sales professionals are well-known and consistently executed by top performers – and you could be one of them. Presenter Tom Piscitelli will share the tools and strategies that will not only deliver the highest job selling prices, the highest close rates and the best gross profit margins – and make you a top performer. This forum will be a free-flowing session where all questions will be discussed and answered.

Tom Piscitelli is the founder of T.R.U.S.T® Training and Consulting. He teaches his System Selling in-home sales training seminar series, a successful program that has helped boost the sales of more than 7,000 HVAC contractor sales-professionals. He is active in bringing cutting-edge training methods to the HVAC industry.

SMACNA's 66th Annual Convention will take place at the Desert Springs JW Marriott Resort and Spa in Palm Desert, Calif., from Oct. 11–15, 2009. For more information on the annual convention visit the [SMACNA Web site](#), or contact Mary Lou Taylor, director of meetings and convention, at (703) 803–2998 or mtaylor@smacna.org.

Safety And Health Resources Available To Residential Contractors

SMACNA develops and provides numerous safety and health-related products, including several that are valuable for residential contractors.

Service Vehicle Tip Cards – Free

First, SMACNA has developed Service Vehicle Tip Cards that cover pre-use inspection issues and safe driving tips. Useful during “Tool Box Talks” and other training sessions, the laminated, free cards fit into a vehicle glove box for review on a regular basis.

Residential Construction Safety CD

Also, in cooperation with the Sheet Metal Occupational Health Institute Trust (SMOHIT), SMACNA can provide members with the free SMOHIT training CD “Residential Construction Safety.” This CD focuses on safety and health issues related to residential construction sites such as tool safety, multi-trade work safety, and HVAC and TAB safety.

Safety Posters – Eye, Ear, Cut Protection

SMACNA also recently developed a set of three safety posters that are useful reminders for both shops and job site work settings. This modern, updated series of posters covers three significant safety and health issues in the sheet metal industry – eye, ear, and cut protection. The poster “Let The Eyes Have It” addresses eye protection, the poster “Don't Cut Your Job Short” covers cut prevention, and the poster “Are You Wearing Your Ear Plugs?” promotes wearing proper hearing protection.

You can attach the posters to the inside of service vans, mount them in job site trailers, or frame them for shop break rooms. Each eye-catching poster is 16” x 24” and all three are shipped together. The members-only cost for all three posters is \$20 (plus shipping and handling).

For your free vehicle tip cards and the SMOHIT CD “Residential Construction Safety,” contact Mike McCullion, SMACNA’s director of safety and health, at mmccullion@smacna.org or (703) 995-4027. To purchase the posters, contact the SMACNA Publications Department at (703) 803-2989 or go to the members only section of the [SMACNA Publications Store](#).

Be Prepared For Emergencies — Don't Wait Until It Is Too Late!

A business continuity plan is something every company needs but hopes never to use. Whether the potential disaster is a flood, hurricane, tornado, earthquake, fire, or high winds, every business should have emergency planning in place before the disaster and business continuity plans after the event.

The actual plans don’t need to be in binders full of papers. A simple checklist, prepared and implemented by owners and upper management, can make a difference in a crisis. Making emergency preparedness part of your company’s safety and health program is a great combination.

Last summer, rising rivers devastated several cities and thousands of homes and businesses across Iowa. Randy Novak, president of Novak Heating and Air Conditioning of Cedar Rapids, Iowa, shared his lessons learned after the Cedar River flooded hundreds of city blocks, including Novak’s own business.

“Every company—no matter how big or small—needs a disaster plan,” Novak said. “It can be as short as a few bullet points or it can be detailed. I was one of those contractors that thought ‘It could never happen to me,’ but I was wrong.”

His suggestions for emergency planning include:

1. Have an off-site backup of your computer system.
2. Call the phone company immediately and have phone lines forwarded if necessary.
3. Let your customers know that you are still in business: E-mail your customers. Post an update on your Web site.
4. Meet with your employees right away and develop a strategy to continue to serve your customers.
5. Create a backup plan. Where you would move if your facility was destroyed? Where would your office be? What could you do for a temporary shop? What could you do for a temporary warehouse?

These strategies can help you be prepared for a disaster – and not be caught off guard. For information on emergency planning, visit the [Federal Emergency Management Administration \(FEMA\) Web site](#).

The Value Of Service Agreements – Good For You And Your Customers!

A recent national HVAC magazine survey of more than 80,000 consumers found that only 20 percent of HVAC customers have service agreements. That leaves 80 percent of the market wide open. The survey also showed that customers want to work with companies they have worked with in the past. These survey results mean two things – customers want to buy services agreements and they want to buy them from you – their trusted contractor.

Let me share the basics of why service agreements are good, not only for the customer, but also for you as a contractor.

1. **Cash Flow** – The number–two killer of service companies today, after improper pricing, is cash flow. A company can be priced perfectly and still go out of business because of cash flow problems. Service agreements help solve the never–ending problem of cash flow. Service agreements are sold throughout the year, therefore the annual renewals create a consistent cash flow throughout the year. During those slow months some cash continues to come in. Five hundred service agreements at \$200 each will create a monthly income of about \$8,000 a month. Wouldn't it be nice to know that at least \$8,000 of overhead costs would be covered if nothing else were going on! Service agreements help cash flow.
2. **You Get to Schedule the Work** – All companies have those slow days where only 4 to 6 hours are scheduled. Wouldn't it be great to be able to call a few of your service agreement customers to schedule their annual maintenance on their equipment? When you have a service agreement customer you schedule the work. You determine when annual maintenance will be done, not the customer. That can help fill in slow days, with the net result being more profitable “billable time” and less costly “non–billable” time.
3. **Happy Customers** – Wouldn't it be great if your customers were “happy” when you enter their home? Unhappy customers are the product of sloppy work or unexpected breakdowns. Service agreement customers normally have maintenance done on their equipment twice a year. When routine maintenance is performed there are fewer breakdowns, which results in happier customers.
4. **Job Security for Your Technicians** – HVAC contractors are always looking for ways to retain good technicians. The quickest way to lose a tech is by not being able to keep them busy 40 hours a week. Service work can be scheduled during slow times. Filling in with service agreement work helps fill work weeks that may otherwise be less than 40 hours. Service agreements also provide for the gradual growth of the company, since customers normally want the HVAC company they are working with to replace equipment when it is time. The results? Steady growth and technician job security.
5. **Nearly Guarantees That Any Service Work Done During the Year Will be Done by Your Company** – When service work is needed during the year, who do you think the service agreement customer is going to call? Your company, of course! Why would a service agreement customer call anyone else to repair their equipment if they have an agreement that gives them a 10 or 15 percent discount if repair work is needed? They will call you and no one else.
6. **Eventual Equipment Replacement** – Not only will service–agreement customers call your company if repair work is needed, but guess who they are going to call when it is time to replace or remodel? Over the years, your technicians have been in the customers' homes once or at least twice a year, if not more. All these visits result in building strong relationships between your company and the customer. Homeowners want to do business with contractors they trust. Who are they going to trust more than your company after years of building relationships? When equipment needs to be replaced they will call you, often without even getting a second quote.
7. **When the Technician Learns to Sell Service Agreements They Can Sell Anything** – Technicians traditionally do not like to talk to customers. With training, however, technicians can be taught customer relations, including how to sell service agreements. Once they learn to sell service agreements, the sale of other products and/or services begins to come naturally. Of course, the tech then gives the customer the opportunity to sign up for a service agreement on the spot so they can get the immediate savings on the repair.
8. **Opportunity to Expand Your Customer Base** – Do you know the cardinal rule of service? It's “Never service your current customer base during the busy season.” When it's 100 degrees in the summer or 10 degrees below zero in the winter whose phone is ringing? Every company's phone in town is ringing no matter what kind of quality work they do. The objective is to have your current customers serviced just before – or just after – the busy season. Service agreements make this possible. If you are servicing your current customer base during the busy season, you won't have time to take on new customers.
9. **Increases the Value of Your Company** – The final benefit is the value that service agreements add to your company. Traditionally the bottom–line profit (with the owner's salary and benefits added back in) is multiplied by two or three times to come up with the rough selling price of a company. Service agreement profits, however, are typically multiplied by six to seven times their value. If, for instance, the company's net profit, without the service agreement profit, is \$75,000 a year, the

company would sell for \$150,000 to \$225,000, plus its asset value. If, however, that same company had service agreement profits of \$30,000 a year, the service agreement profit would be valued between \$180,000 and \$210,000. That alone would make me want to grow my service agreement program.

Service agreements are both good for your customer and are good for the company. If your company is going to be around in the 21st century, one of the basic foundations will be a progressive service agreement program. Your customer is going to buy a service agreement from someone – so it might as well be you!

Author

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