

RETROCOMMISSIONING, *continued*

Facilities such as hospitals, universities, laboratories, schools and military bases are usually excellent choices for Rcx. Additionally, facilities such as office buildings and hotels that have a central boiler/chiller system and Direct Digital Controls (DDC) are also good candidates.

HVAC systems present the greatest opportunity for performance improvement, and energy/operational cost savings. Correcting deficiencies associated with air and water distribution systems and control strategies are at the top of the Retro Commissioning list.

Commissioning an existing building has been shown to be a key energy management activity over the last decade, often resulting in energy savings of 10%, 20% or sometimes 30% without significant capital investment (source: Energy Management Handbook, Fifth Edition; 2005-page 679).

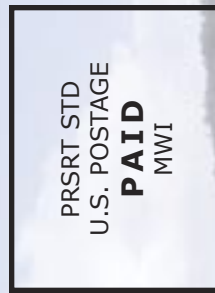
Retro Commissioning is a holistic approach to discovering the deficiencies that exist in a facilities' HVAC, and control system. This approach is also extended out to the building envelope, which often is a significant contributor to comfort problems and energy waste. Envelope problems such as leaking windows, inadequate insulation in roof and wall connections and unsealed penetrations in walls and slabs, are a few of the typical envelope problems that have a direct impact on the performance of HVAC systems.

These problems are widespread. In a study of 60 new buildings by Lawrence Berkeley National Laboratory, it was determined that:

- 50% suffer control problems
- 40% suffer HVAC problems
- 15% have missing equipment
- 25% have facility management systems that don't function
- 60% of insurance claims are related to HVAC problems
- The #1 source of complaints is related to HVAC problems

In addition to the older existing building market, some of the best candidates for Retro Commissioning are new buildings that were not commissioned and have had problems with the HVAC system occurring since the building was turned over and occupied.

Retro Commissioning is a management tool which building owners and managers can implement to help solve the challenges of assuring a safe, comfortable indoor environment for the building occupants, with the least cost of operating and maintaining the facility.



COMFORT ZONE

A publication of HVAC, Inc. • Summer 2007



The Prescription For Improving Building Performance? A Little Rcx

Commercial Buildings across America have a common problem; they seldom perform at design level. Optimum level provides the most comfortable and safe indoor environment for the occupants while balancing operation and maintenance costs for the owners.

Retro Commissioning (Commissioning existing buildings) is a systematic process that helps solve this problem by allowing a building's Heating, Ventilating and Air Conditioning (HVAC) system, and integrated building controls to operate at peak performance. Retro Commissioning (Rcx) building systems can provide significant benefits such as improving occupant comfort, reducing energy cost, improving Indoor Air Quality (IAQ), enhancing building operations and extending equipment life.

The National Environmental Balancing Bureau (NEBB) defines Retro Commissioning, as the systematic process by which the building owner ensures that the building and systems are optimized to perform interactively to meet the current operational needs as closely as possible.

The primary goal of Rcx is to determine the current requirements of the building, and adjust the way the building's systems are operated to reach these requirements as close as possible. With Rcx, the goal is not always to achieve 100% perfection. Existing facilities may not have the proper infrastructure in place such as properly sized equipment, ductwork, piping and electrical service to reach a 100% perfectly operating facility. In this case, the existing systems are adjusted to optimize the building's performance; and achieve the highest attainable level possible.

Additionally, a financial analysis is performed to determine the feasibility and payback to make the necessary modifications to reach a 100% perfectly operating facility, or as close to 100% that is financially justifiable. Sometimes it is cost prohibitive to attempt 100% in an existing facility; for example, 90% can be achievable, however the last 10% is sometimes too expensive to justify the cost.

Rcx activities focus primarily on low cost/no cost optimization strategies that offer the greatest possibility for energy savings. Generally, the more complicated the mechanical system, the greater potential exists to discover opportunities that will improve building performance and save energy.

continued on back



\$20 Off
Your Next Invoice

423.989.5000
Expires August 31, 2007
Not valid with any other offer



In Your System Operating At Peak Efficiency?
Call Today For A
Retrofitting
Consultation

423.989.5000
Expires August 31, 2007
Not valid with any other offer



PO Box 788
Bristol, TN 37621

423.989.5000

Residential & Commercial:
Heating • Cooling • Plumbing • Electrical
Building Automation • Indoor Air Quality
hvacbristol.com

Shelter Box Update



Edd Hill, President HVAC, Inc.

By this time of the year, many of our holiday memories have been relegated to photo albums and various boxes stowed in the attic. It's time for boating and grilling, not tinsel and mistletoe.

Unless you gave the type of gift that keeps on giving year round.

This past holiday season in honor of our friends and customers, HVAC, Inc. sponsored three Shelter Boxes through Shelter Box USA, a grassroots Rotary Club project which has rapidly grown to the international level.

The purpose of Shelter Box USA, Inc. is to provide victims of disaster with shelter, by supporting the efforts of the Shelter Box Trust.

The function of Shelter Box USA, Inc. is, within the USA, to raise the money that provides the shelter

for disaster victims. The boxes, which contain a variety of survival items including water, tents, sleeping bags, cook stoves and water purification tablets, are dispatched to sites around the world that have been impacted by natural disasters.

As we enter into another hurricane season, we pray that those we know and love in the danger areas are free from further devastation. But we take comfort in the knowledge that programs such as Shelter Box USA are working to make sure that those impacted by natural disasters can find some small creature comforts in the contents of the boxes that will help them restore their lives to some semblance of normalcy.

Natural disasters are the great equalizer. They can impact any one, of any race, or any economic level at any time. We will continue to support the Shelter Box USA project, and we encourage you to do so, as well.

For additional information about this project, please visit: shelterboxusa.org.

Recent Awards & Certifications:

- HVAC, Inc. has received certification from the National Environmental Balancing Bureau (NEBB). NEBB certifies firms that meet certain criteria, ensuring strict conformance to its high standards and procedures. Among other requirements, NEBB-certified firms must document a record of responsible performance, own a complete set of instruments required for the sophisticated techniques and procedures necessary to "fine tune" modern environmental systems, and have a NEBB-qualified supervisor as a full-time employee.
- Edd Hill, President of HVAC, Inc., has been awarded the "110% Award" from the Bristol Noon Rotary Club.
- HVAC, Inc. is an ENERGY STAR® Partner, a voluntary partnership to reduce air pollution through increased energy efficiency. Through Energy Star, The Department of Energy and the EPA offers businesses and consumers energy-efficient solutions to save energy and money while helping to protect the environment for future generations. Since 1992, than 7,000 organizations have become ENERGY STAR® partners.

Gordon Brings Expertise To New Role At HVAC, Inc.

Scott Gordon, a seasoned industry professional with over 30 years experience, has joined the management team of HVAC, Inc.

As General Manager of Service, Commissioning and Retrofit, Gordon will grow and optimize the commercial services offered by HVAC, Inc., including the testing and balancing of mechanical systems, retrofitting, commissioning and strengthening customer relationships.

A native of Miami, Gordon began working in the contracting trade as a teenager. Since 1973, he has gained diverse field and practical business experience through positions in construction, service, management and as owner of Tropic Air Conditioning, a national award-winning design/build mechanical contractor in Miami.

"Having experience in many of the specialized trades that comprise our industry, Scott is able to bring a unique perspective to his role with HVAC, Inc.," said Edd Hill, HVAC, Inc. President.

Gordon is certified by the National Environmental Balancing Bureau (NEBB) for testing, adjusting and balancing of environment systems and commissioning mechanical and control systems.

He is also a Class AP Certified Air Conditioning Contractor in Florida, and a Certified Indoor Air Quality Professional (CIAQP) through the Association of Energy Engineers (AEE).



Scott Gordon

HVAC, Inc. Regional Projects

HVAC, Inc. has recently been involved with a number of high-profile projects throughout the region, including:



Project: Johnston Memorial Cancer Center

Location: Bristol, VA

Scope: Mechanical, Controls & Plumbing

Johnston Memorial Hospital's new \$22 million, 60,000 square foot Cancer facility will feature an array of cancer care services including medical oncology, radiation oncology, diagnostic radiology, diagnostic laboratory and more.

Tracey Moretz: Get On, Hold Tight And Sing Out!

Tracy Moretz is a man of few words, preferring to formulate his thoughts during long, meditative rides through the Southwest Virginia countryside on his Harley, and finding his voice in the strings of his guitar and the strength of his conviction as he travels from country church to benefit concerts throughout the region sharing his love of gospel bluegrass music with the faithful.

Moretz, a plumber with HVAC, Inc. for over ten years, has achieved a harmonious balance between his passions for loud motorcycles and gentle music.

But which came first? The Harley or the hallelujah?

A musician since childhood, Moretz was in his high school band, and made the musical journey through all genres, from rock and roll to country, before settling into his bluegrass roots.

Moretz is equally at home with both the guitar and dobro, as well as showcasing his vocal talents as a member of The Mountain Valley Boys, a bluegrass gospel band.

The group plays about 30 dates a year at festivals and churches and for community fundraising benefits.

But anywhere friends gather, is an opportunity for an impromptu, old-fashioned throwdown.

"A bunch of us will gather on my porch and play," he said. "It doesn't matter where. We all play because we love it."

The motorcycle came about later, during Mortetz' teen years, when a young man's thoughts turn to freedom and the call of the road. A Harley owner since the age of 18, Moretz takes daily rides through the rural area near his home, time he uses for contemplation.

"Sometimes I think about everything while I'm riding, other times, I don't think about anything at all," he said. "I use the time to clear my head, think about music, and enjoy the nature around me," he added.

"I'm not much of a talker," said Moretz, "but I have been blessed, and in some way, the music is my way of witnessing to others. "When you know that you will be playing in church on Sunday, it sure makes you think about what you're doing Saturday night," he added with a smile.

And when Moretz takes center stage to belt out a traditional gospel standard, one can't help but wonder if he is playing to the beat of the bass on the stage, or to the roar of the engine in his heart.

Moretz resides in the Widener's Valley area of Southwest Virginia with his wife, Betty and their dogs Frank, a Chocolate Lab and Maverick, a Walker Coon Hound.

For more information on The Mountain Valley Boys, including recordings and tour dates, visit online: mountainvalleyboys.com.



Tracy Moretz plays before the legends at Bristol's Country Music Mural...only steps away from HVAC, Inc.