



In Control! *Effective Management* *of Your Facility*

Fall 2005

Volume 1, Issue 2

The New U.S. Energy Policy Act: Can your organization benefit?

On Aug. 8, after more than four years of congressional debate, President Bush signed the Energy Policy Act of 2005. The act is the first change in U.S. energy policy in 13 years and actually is packaged as an addendum to the Energy Policy Act of 1992. The content of the new legislation includes funding for increased research and development of new energy sources and tactics that improve efficiency. It also strengthens the federal government's authority to enforce reliability standards for electricity, and provides \$14.6 billion in tax credits and incentives for commercial and public buildings owners. But how can this far-reaching law affect your organization?

First, the objective of the Energy Act is to encourage the efficient use of energy and—perhaps even more important—move the U.S. toward a national energy security standard. Many of the act's provisions reward companies employing innovative approaches to using and producing energy. This is an opportunity to make upgrades and improvements to a commercial building—improvements that will not only increase the value of the building, but will decrease the cost of operation. The following provisions could represent significant energy and cost savings for your company or organization. Now is an excellent time to review your upcoming plans for building improvements, renovations and expansion, then research your company's eligibility for federal tax credits and rebates under the new legislation.

Taxes: New deduction promotes energy-efficient buildings

Perhaps the most talked-about provision of the act is a tax deduction of up to \$1.80 per square foot available for a commercial property owner who increases a building's energy efficiency by 50 percent. The deduction allows for new equipment, services, and physical changes in a building's heating, cooling, water heating and lighting systems.

For commercial property that does not meet the overall 50 percent energy reduction, a new "partial" deduction is available for individual building systems that meet a 50 percent energy reduction threshold per system improvement. Eligible equipment includes: lighting, HVAC, building envelope upgrades, retrofits to existing buildings and building wire and electrical components. These two tax provisions will be effective for property placed in service or upgraded after Dec. 31, 2005 and prior to Jan. 1, 2008.

Utilities: Time-based rate schedules to aid decision-making

As of January 2007, electric utility companies must provide (upon customer request) a time-based rate schedule. The schedule details the rate charged by the electric utility and how it varies by time and demand. It also reflects the utilities' changing cost of generating or purchasing energy at the wholesale level.

Customers will likely have various time-based rates schedules available to them. In many cases the metering technology in your buildings will need to be upgraded to take full advantage of the new rate schedules. "Smart" meters will allow your organization and the utility to make better decisions and monitor compliance in demand response programs. The meters also will also measure customer generation and sale to the grid, make customer usage information more readily available and improve billing.

Continued on the Back Page

Training Schedule

Our in-house training courses are based on different skill levels. Whether you need to get a new employee familiar with your Siemens system or help your current system operator reach their most productive skill level – we can meet the needs of your entire staff. Enrollment is “first come, first serve” and classes fill quickly.

If you are interested in our training courses and have not received a training directory, please call Ernie Glenn at CMI, **803-779-6050 ext 411** or visit our website, **www.controlmanagement.com**, for more information. We look forward to seeing you in upcoming CMI training classes!

AIG-202 *Advanced Apogee Insight Operations: Reports, Trending & Scheduling* –

Learn to create, display, and print various reports; trending (data stored when a change of value or time occurs); schedule equipment, run times, trends, and reports and much more, all through graphics.

Recommended prerequisite: AIG-101.

Class Date: November 9, 2005

TEC-101 *Apogee TEC's – Terminal Equipment Controllers* –

Learn how TEC's control building equipment and communicate with field panels, communicate with the field panel using Controller Interface Software (CIS) or Datamate, communicate with a TEC from the room thermostat using a laptop, and through the field panel or Insight.

Class Date: December 7, 2005

AIG-101 *Apogee Insight for New Users* –

Learn the basic operations of the system for day to day use through graphics. *No recommended prerequisites.*

Class Date: January 11, 2006

** Dates for December and January classes subject to change. Please check our website (www.controlmanagement.com) for dates before registering.*



SIEMENS
Customer Lounge

Visit Siemens "Customer Lounge" website to learn a wealth of information on building automation, energy management, indoor air quality, system integration and other topics geared toward our customers. Read case studies on various facilities around the US relating to building automation solutions. The website also contains informative articles from Siemens "Building Solutions Magazine".

Information is added to the Siemens Customer Lounge website frequently. You can take advantage of the "News Alert" program and be notified monthly, by email, when new content is added.

New content for this month includes:

- ◆ Winter planning: Conduct a pre-shutdown analysis of your building's chiller plant
- ◆ Using integration to extend the life of legacy control systems
- ◆ Open Transport Network: New fiber-optic application increases uptime, reliability in building security
- ◆ And Much More!

For more information access the Siemens Customer Lounge website at:

www.sbt.siemens.com/customerlounge

Product Spotlight

Introducing: VAV Plus

a revolutionary new control solution designed to maximize a traditional VAV system's efficiency

Introducing VAVPlus, a revolutionary new control solution designed to maximize a traditional VAV system's efficiency. By leveraging the power of the APOGEE Automation System, VAVPlus can increase control performance, reduce noise and create significant energy savings. VAVPlus extends the variable nature of the VAV system by providing both the variation of air volume and static pressure, creating a Variable Volume and Variable Pressure control solution or VAVPlus.

VAVPlus offers significant advantages over other VAV optimization strategies in that it does not typically require the installation of additional hardware and sensors. VAVPlus can be implemented on any VAV system driven by a variable speed drive and controlled by an APOGEE Automation System. VAVPlus uses model-based artificial intelligence to determine system pressure characteristics and dynamically adjusts the system static pressure based on instantaneous box flow set points to provide the desired conditioning at the optimal efficiency. The result is energy savings well beyond that of traditional discrete or damper position based pressure reset strategies that are commonly used to optimize VAV systems.



VAVPlus is an optimal solution for any VAV system that includes a VFD and BLN level control of the fan system and all terminal units. VAVPlus requires a minimum of any Insight software and APOGEE-based firmware. The primary goal of VAVPlus is to optimize VAV air distribution by continually adjusting the static pressure and the airflow volume based on the instantaneous load demand. This optimization can significantly reduce energy consumption, increase system life and even reduce load. There are four key differences between a VAVplus solution and a traditional VAV solution. These differences are: 1) VAVPlus requires a VFD drive and BLN control capabilities; 2) The terminal box flow set points are unbundled and tied into the BLN control strategy; 3) The VAVPlus mathematical duct pressure model is implemented in PPCL and uses box flow set points to predict the required pressure needed for each box. The static pressure set point is then dynamically updated to ensure the system operates optimally. VAVPlus does not "hunt and peck" for an optimal static pressure set point like most reset strategies; 4) The static pressure sensor is placed at the outlet of the fan, versus arbitrarily down stream, further increasing savings and control accuracy.

The primary driver of a VAVPlus sale is typically a need to reduce energy costs or increase performance. The magnitude of the benefits of VAVPlus is determined by seven key parameters: hours of operation; fan HP and CFM; current static set point; size of system (i.e., oversize); average VFD speed and utility rates. All play a role in whether VAVPlus is a reasonable investment for customers. Because the relationships of these variables are intertwined, multiple sales tools are available to help field offices qualify systems and demonstrate the savings opportunity to customers.

If you are interested in learning more about VAV Plus or any of the Siemens Building Technologies products offered by CMI, please contact one of our three offices, or check out our website at www.controlmanagement.com.

Customer Spotlight

St. Francis Hospital Greenville, SC

St. Francis Hospital was founded in 1932 by a group of Franciscan sisters, and today the hospital is guided and supported by the mission of the Sisters of Bon Secours. Located in Greenville, SC, St. Francis has four facilities: St. Francis Hospital, Women and Family Hospital, Outpatient Center and Patewood Surgery Center. The hospital has 319 beds and the 2000 employees serve about 75,000 patients annually.

Like most older hospitals, the St. Francis Hospital control systems were pneumatic and installed through the years with each addition being an individual system. First Honeywell, then Control-Pac and later Johnson Controls implemented the evolution to central computerized control systems. St. Francis found itself with multiple vendors and various levels of system equipment "obsolescence" coupled with no clear path to the future.

St. Francis was faced with familiar decisions. What vendor will provide the technology, people and support for both today and tomorrow? Is an existing vendor the best choice? What have other Hospitals done?

The combination of Siemens Apogee and CMI was a viable option for St. Francis to consider. The Siemens Apogee system implements the latest technology while protecting the owner investment. CMI has 20 years experience in implementing control solution for both new and existing Hospitals.

In January of 2005, the hospital engineer contacted CMI for some pricing on a job they were getting ready to start. He had previously worked at Roper Hospital in Charleston, another CMI customer. The first two projects consisted of updating the controls in the Central Energy Plant (CEP) and two Cardiac Operating Rooms. The projects have grown to include work at the Women's and Family Hospital. As CMI's relationship with St. Francis Hospital is growing, we are finding new ways to assist them with their HVAC needs.

Before



After



WOW!

1 Million Safe Work Hours!

Congrats!

In 2005, CMI reached a milestone...We accomplished One Million Safe Work Hours. The Associated General Contractors of America awarded CMI with the "Million Manhours Club" award. We have had one million work hours without a lost time injury.

Congratulations on a job well done!

Welcome!

Welcome New CMI Employees:

Welcome!

Frank Murphy, Doug Whittington and Andy Rankin

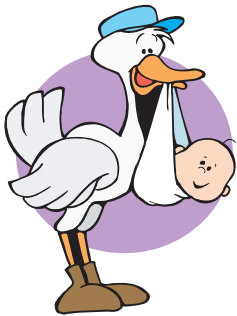
Congratulations to **Frank Murphy** on graduating from Clemson. Frank rejoins CMI as a full time employee in Project Management/Engineering.
His email address is: Frankm@controlmanagement.com

Andy Rankin is a student at Midland Technical College and is working part time in our Service department out of the Columbia Office.
His email address is: Andyr@controlmanagement.com

Doug Whittington is working in Installation out of our Myrtle Beach Office.
His email address is: Dougw@controlmanagement.com

Congratulations:

Nicole Wilke, Hugh Smith, Kelly Paul and Blake deTreville



Congratulations to **Nicole and Brady Wilke** on the birth of their first child. Ava Ayers Wilke was born Friday, July 15 at 9:59 pm. She weighed 8 lbs. and 1 oz and was 19.5 inches long. Mother and daughter are doing wonderful, and we welcome Nicole back to CMI's Service Department.

Congratulations to **Hugh and Jenny Smith** on the birth of their first child. Hugh Lanier Smith was born Thursday, October 6. He weighed 7 lbs. and 12 oz and was 20.5 inches long. Daddy, Mommy and baby are doing wonderfully. Hugh is in Project Management/Engineering in CMI's Columbia office.

Congratulations to **Kelly Paul and Bobby Turbeville** on their engagement. The wedding is planned for June 10, 2006. Kelly is in Service Sales in the Columbia Office.

Congratulations to **Blake deTreville and Bebe Wilson** on their engagement. The wedding is planned for Feb. 10, 2006. Blake is in Project Management in the Columbia Office.



Cover Article Cont.

With real-time information on a building's energy use, a facility manager can monitor and change a building's energy consumption rate throughout the day. When used in conjunction with a demand response strategy, a manager is able to implement an energy and rate reduction strategy.

Another new tax credit is available for companies that install fuel cells or microturbine energy systems before Jan. 1, 2009. These technologies function as on-site, micro-power generators that can compliment or supplement other power sources. Using natural fuels, a single microturbine can produce small scale electricity of up to 70 kilowatts. They can usually be combined in parallel to provide up to approximately 1.2 megawatts of power.

Federal buildings mandated to reduce energy use 20 percent by 2015

The Energy Act mandates that all federal buildings reduce energy consumption by 2 percent each year beginning in federal fiscal year (FFY) 2006. Using their baseline figure for energy expenditures from FFY 2003, each agency has 10 years, until FFY 2015, to reduce its overall energy consumption by 20 percent. Federal agencies also are directed to acquire 5 percent of that energy from renewable sources by the year 2010 and 7.5 percent by 2013.

The act also reauthorizes the use of Energy Savings performance contracts for federal facilities for a period of 10 years. This allows facility managers to continue to contract for building upgrades which are paid for by the building's own cost savings.

Of particular importance to federal customers is a new provision that allows each agency to keep any funding left over from an energy efficiency improvement. Prior to the act, all unused renovation monies would be forfeited to a general federal fund. Now, these funds may stay with the agency to which they were issued-with the provision that they are spent on additional energy efficient projects.

Local governments may apply for federal grants to research and develop energy conservation plans that will improve the energy efficiency of public buildings and facilities.



Control Management, Inc.

3101 Carlisle Street
Columbia, SC 29205
Phone (803) 765-9070
Fax (803) 779-8191

PRSRT STD
US POSTAGE
PAID
COLUMBIA, SC
PERMIT 706

Control Management, Inc. is dedicated to customer service and satisfaction.