Cx monitor
Achieve Your Building's Optimal Efficiency
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"BUILDINGS SHALL BE CAPABLE OF..."

By Jamie Qualk

THIS IS A TERM THAT MANY OF US, ESPECIALLY MECHANICAL ENGINEERS AND BUILDING AUTOMATION PROFESSIONALS, ARE FAMILIAR WITH WHEN WRITING THE SEQUENCE OF OPERATIONS FOR A BUILDING'S CONTROLS SYSTEM.

OWNERS OFTEN ASK that engineers specify what a "building automation system shall be capable of" in terms of operations or performance. But just because a building's automation system is capable of doing something, doesn't necessarily ensure that a particular operation will actually be properly utilized (if utilized at all) once a building is up and running. As a result, many buildings are capable of operating more efficiently than they actually do.

A day-to-day example is the purchase of software that's intended to revolutionize the operations of a company, but never gets used to that end because of a lack of accountability and staff training (i.e. we have this great new sales-tracking software but because it takes a little effort and staff resources to fully understand/utilize the system, we've only used it to house contact information for the past 12 months).

An unfortunate fact-of-life in the world of building operations, this idea expands far beyond building-automation systems to the entire building itself. The idea that a new or existing building can be capable of using very little if any grid-energy or water while serving as a healthy place for people to live and work is now commonplace. And this is just one of many ways that buildings still fall short of their true potential.

What about LEED®?

While LEED certification is utilized far more now than in previous years, the potential it provides is still rarely maximized. For instance, many buildings still don't properly use an energy model to drive the decision-making process related to energy-consuming systems. Additionally, measurement and verification efforts aren't making the proper connection between design and construction strategies to the operations phase of a building's life. Staff training at the turnover of a building is usually far from comprehensive and often fails to fully communicate the building as one large system—a system whose performance naturally degrades over time, even if a thorough preventative maintenance program is implemented.

Think of a building like a car—just because you provide your car with optimum maintenance doesn't mean that the parts won't eventually wear out and need replacing. A building is no different. However, proper maintenance means that it can operate at maximum efficiency and wear out at a slower rate. Still, existing-building commissioning services that combat performance decay are rarely used when preventative maintenance measures are struggling to gain proper implementation.

> *"many buildings are capable of operating more efficiently than they actually do"*

Above all else, an integrated approach to design, construction and operations doesn't occur often enough. This leaves the necessary connections between the design process and operations of buildings minimized, with very little input from future staff that will ultimately be responsible for operating and managing the costs of a building throughout its useful life.

There's still hope...

Nevertheless, there are individual success stories that prove we can do far better and on a much larger scale. As an industry, we know what it's going to take to further reduce the impact buildings have on the environment as well as their cost to build and operate. By properly using tools and strategies that are available today, significant opportunities to reduce a facility's energy consumption are here now. While we need to ask what our buildings should be capable of, we also need to ask how we plan to execute those capabilities.

For more detail on this topic, check out Jamie's article in the November issue of ED+C.

GREENBUILD 2010 Booth #1124

Come to our educational session on Renewable Energy Infrastructure and Peak Energy Demand Control for Hospitals

SESSION: PL 16
TIME: 8:30 a.m., Friday, Nov. 19
ROOM: W180

Learn about strategies for hospitals and large facilities to partner with municipalities for renewable energy projects. Specific examples will be shared from Rockingham Memorial Hospital, a LEED-NC project opened in June of this year.

Rockingham was recently awarded LEED® Gold certification from the U.S. Green Building Council, making it the first inpatient healthcare facility in the state of Virginia, and the second of its size in the nation to achieve this level.

CREATING A HEALTHY WORK ENVIRONMENT

With Green Cleaning

By Heather Langford and Tabitha Goodman

GREEN CLEANING IS A GREAT WAY TO SIMPLIFY YOUR HOUSEKEEPING PROGRAM, SAVE TIME AND MONEY AND CREATE A HEALTHIER WORK ENVIRONMENT.

Green cleaning is just one aspect of green housekeeping. A thorough green housekeeping program should incorporate all aspects of a building's custodial program. It should address sustainable (green) options for cleaning materials, products, and equipment, the use of chemical concentrates and dilution systems, proper training for custodial employees, and waste mitigation and disposal. Drafting a document that includes your goals and acceptable processes is a great place to start. Here are some key reasons for starting a green housekeeping program and tips on what it should include.

Cleaning is guided by the need to protect health and maintain property, which means wiping out germs and using chemicals that are safe for custodial staff and building occupants. Many conventional cleaning products contain chemicals that are harmful if inhaled or ingested, and these effects are often magnified when products are combined.

In addition to negatively impacting human health, conventional cleaning chemicals can harm natural resources and wildlife. Chemical compounds can leach into water systems during regular cleaning activities and improper disposal. Green cleaning techniques can help mitigate these health and environmental hazards.

The United States Green Building Council has consistently emphasized green cleaning in their LEED-EB program. Today, buildings must have a written Green Cleaning Policy in place to be eligible for LEED-EB certification at any level. An additional point is available if a more detailed program exists specifying what products, equipment and practices are used. Finally, projects can earn points by proving (with purchasing records) the written program goals are being achieved.

Green housekeeping focus areas in LEED-EB include:

- **Custodial Effectiveness**
- **Sustainable Chemicals and Materials**
- **Sustainable Equipment**
- **Entryway Systems**
- **Integrated PMst management (IPM)**

"Many conventional cleaning products contain chemicals that are harmful if inhaled or ingested"

Most LEED rating systems focus on building construction, rather than operation. However, LEED points can still be pursued for green cleaning under LEED for New Construction and LEED for Schools rating systems. Under these programs, project teams may receive an innovation point by providing a detailed Green Cleaning Program that will be followed by the facility maintenance staff. Looking at the requirements of green cleaning credits included in LEED-EB is a great place to start when drafting your innovation credit.

For additional insight, see the full-version of this article in the online exclusive of *Sustainable Facility's* Sept. / Oct. issue.

LOOK FOR SSRCx'S HEATHER LANGFORD AT

Partners in Community Forestry National Conference
November 8-11, Philadelphia, Pa.

Topic: Successful Tree Canopy Assessments: Working with Multiple Stakeholders

Co-presenting with Chris Armour, Trees Nashville

RENEWABLE ENERGY PERSPECTIVE

VIEW Jamie Qualk's *Environmental Design & Construction* video cast on various forms of renewable energy and how they fit into the overall energy landscape of the U.S.

Project HIGHLIGHTS

Le Bonheur Children's Hospital celebrated the grand opening of its new $340 million, 230-bed replacement hospital in June.

The Memphis hospital is on track to become one of the first hospitals in Tennessee and the fifth children's hospital in the nation to achieve LEED certification. SSRCx provided commissioning, LEED facilitation services and energy modeling services. Other SSR teams provided the civil, MEP and medical communications planning and design for the 12-floors and more than 600,000 sq. ft. facility.

Part of a Nashville-based design/build team, SSRCx is conducting LEED-facilitation, Energy Modeling and Measurement/Verification services for **Mission Trail Baptist Hospital** in San Antonio, Texas. Scheduled for completion in the summer of 2011, the new $80 million hospital will consist of three stories, with the capability of adding additional floors and square footage as needed. An adjacent medical office building will offer physician space convenient to the hospital.

SSRCx will conduct LEED facilitation, energy modeling and commissioning services for the **National Nuclear Security Administration's (NNSA) new research and manufacturing campus** in Kansas City, Mo., helping to reduce the facility's annual operating costs by more than 50 percent. Construction on the 1.5 million-square-foot NNSA Campus began this month, with a target of LEED-Gold certification once completed in 2013.

SPOTLIGHT *on our* PEOPLE

JACOB S. HALCOMB, LEED AP (Leadership in Energy and Environmental Design Accredited Professional) and senior project manager with SSRCx Sustainable Solutions Group, is currently assisting the United Nations Environment Programme with developing a global sustainability metric. Halcomb is the UNEP coordinator for the Advocacy and Outreach Committee, and the liaison between the committee, its members and the board of directors for the Sustainable Buildings & Climate Initiative.

AMY BALDERRAMA recently made the move as assistant project manager to the Nashville office from the firm's Phoenix office. Baldarama is a LEED AP in Building Design and Construction (BD+C) and Operations + Maintenance (O+M).

Welcome new SSRCx members:

MIKE PREECE, PE, joins SSRCx as a Senior Project Manager. Preece is located in Washington D.C. and will be responsible for managing the projects and clients in the DC Metro Area, which includes District of Columbia, Maryland, Virginia, Pennsylvania and Delaware. Preece's experience includes managing several government clients and Indefinite Delivery Indefinite Quantity (IDIQ) contracts in the DC area for the past 7 years.

TOM LEPPARD joins SSRCx as a Senior Commissioning Authority with 47 years of experience in the building industry. He has served as Senior Project Manager for leading mechanical contractors in Texas. His previous experience is with complex market sectors, such as high tech (clean room environments), laboratories, healthcare, and industrial.

BRANDON TRAVIS joins the SSRCx Nashville office as a Continuous Commissioning® Project Manager. Previously he was a Continuous Commissioning® Engineer with the Energy Systems Laboratory, Texas A&M University. He is an Engineer-in-Training (EIT) and plans to pursue his PE in 2011.

MARK SMITH joins SSRCx in Business Development in the Tampa office. He has 25 years of experience as a representative for HVAC equipment manufacturers in Central Florida. The past 13 years he has owned and operated Project One Systems Sales, Inc.

COREY DRIGGS joins SSRCx's Nashville office as a Field Agent. He has 18 years experience in mechanical and HVAC. Previously he was with Casto Trane in Charleston, W.Va., for 9 years. He taught and sat as the HVAC Department Coordinator for Washington State Community College in Marietta, Ohio for three years.

BRIAN LENNON joins SSRCx as an EIT in the Nashville office. Previously, he was on active duty status for two-and-a-half years with the U.S. Army while attending flight school and flying the OH-58D Kiowa Warrior in support of Operation Iraqi Freedom.

ANNA JOHNSON joins SSRCx as a project and marketing assistant in the firm's Nashville office.

Click the link below to learn more about regulatory compliance & facilities management by reading SSR'S COMPLIANCE NEWS newsletter.

In keeping with our corporate philosophy to minimize negative impact on the environment, the **Cx Monitor**'s *primary form of distribution is email. If you would like to be added to this email list please click here to sign up online at www.ssrcx.com.*

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