

# RCM NEWSBRIEFS

## RCM News for February 2011

A newsletter for Resource Conservation Managers in the Northwest

*In this issue:*

Appliances  
Buildings  
Composting  
Control Systems  
Green Roofs  
Retrofits  
Solar Controls  
Water Disinfection  
Upcoming Events & Training Opportunities  
Resources for You

### Appliances

"[Efficient Motor Control for HVAC Appliances](#)" was carried in the January 2011 edition of *Appliance Design* and co-authored by Hrishikesh Nene and Bilal Akin, Ph.D., both Applications Engineers, Texas Instruments. It discusses how motors with variable speed drives in HVAC appliances can be controlled for higher efficiencies without the sensors that increase costs. One microcontroller, if correctly programmed, can ensure reliability, meet current standards, and maintain motor efficiencies.

### Buildings

"[Healing Environment](#)," by Phillip S. Risner, PE, Seton Family of Hospitals, features the LEED-Platinum, Dell Children's Medical Center of Central Texas. It is distinguished by, among other things, its natural gas-fired backup power that meets all of the hospital's energy needs, not only the most pressing ones. It was, also, built with sustainable materials, reflective roofing, courtyards (to expand daylighting), efficient mechanical lighting, and efficient onsite power generation.

### Composting

A three-part series on college campus composting, by Dan Sullivan, Managing Editor, *BioCycle*, appeared in different issues of that trade journal:

Part I is [Colleges Scrape the Plate, Close the Loop](#); it was published in the July 2010 issue and focuses on five colleges that integrate the composting program with academic programs. Students in a sustainable development curriculum at Appalachian State University in North Carolina began the food composting project. Since then, students in courses related to sustainability have been connected to some part or another of the composting project through, for one example, the college's landscaping activities. Another student-led project at Clark University in Massachusetts has evolved into lectures and lab work related to the composting.

Part II is [College Students Initiate Food Waste Diversion](#); it was carried in the September 2010 issue. It highlights interesting efforts begun by students at Goucher College (in Baltimore, Maryland), Le Moyne College and SUNY College of Environmental Science and Forestry (both in Syracuse, New York), and several other academic institutions.

Part III is [Recycling Food Waste: 101](#); it appeared in the December 2010 issue. This article highlights efforts to use the compost from campus (largely dining hall) food waste on campus gardens to grow food that goes back to campus dining halls as part of the meals service. Programs at thirteen universities and colleges, including the University Of Northern British Columbia in Prince George, are described.

## Control Systems

"Justifying Controls Upgrades," by Rita Tatum, Contributing Editor, is a three-part article that appeared in the January 2011 issue of *Building Operating Management*.

Part 1 is [Common Problems for Aging Controls Systems](#). In some cases, compromised performance may dictate the consideration of a controls system replacement. In other cases, new conditions, unanticipated at the time of system installation, arise and may need to be met with some sort of system replacement.

Part 2 is [Determining and Stretching the Useful Life of Controls](#). Ballpark figures are given for how long controls, proprietary vs. non-proprietary, should be expected to last. Whether to plan for complete replacement or "hybrid replacement" is also discussed.

Part 3: [Establishing the Need for New Controls](#). The author lists and elaborates on three questions to be asked to determine the need for new controls and adds a section on energy considerations given the new and heightened awareness of its importance.

## Green Roofs

"[Green on the Go](#)," by Kylie Wroblaski, Associate Editor, Buildings, appeared in the January 2011 issue of *Buildings*. It describes the new modular vegetative roofs that can be relocated, if necessary. Instead of being planted on the roof itself, the planting is done offsite in trays that are carried to the roof for installation there. It is easier to locate different sizes of plants including shrubs that can be located above roof beams and trees that can be installed above columns. The soil in the trays and the roots of their plants must be in contact with one another to some extent, but removal is, nevertheless, much easier than with a traditional extensive green roof. Additionally, it is a good solution for those who rent or lease a building, but do not own it; when they move, they can take their green roof with them and the roof is returned to its original state.

## Retrofits

"Educational Facilities Campuses" is a two-part article by Randhir Sahni; it was published in the December 2010 issue of *Building Operating Management*. Part 2 of the article, [Tactical Steps for Retrofitting College Campuses](#), concerns energy-related issues and includes a sidebar, "Houston Community College Case Study."

## Solar Controls

"[Shine On](#)," by Janelle Penny, Associate Editor, *Buildings*, was published in the December 2010 issue of that journal. It describes a new use for solar roof panels – providing the power needed for wireless and battery-less controls in commercial buildings.

## Water Disinfection

"[Catskill/Delaware Ultraviolet Disinfection Facility \(2,020 mgd\)](#)" is a web-posted document from the engineering firm of Hazen and Sawyer. It explains the need for UV disinfection of New York City's water supply, given that it had always been so pristine that it was not even filtered. It, also, describes the project that will accomplish the UV disinfection of both Cryptosporidium and Giardia in the event that they find their way into the watershed as has happened elsewhere in the nation. "[Ultraviolet Disinfection](#)" is a four-page fact sheet, published in 2000 by the National Drinking Water Clearinghouse. It explains how the UV disinfection process works and lists its advantages over other types of disinfection. It also describes cases where it would not be appropriate.

## Upcoming Events & Training Opportunities

### Key Facility Solutions in the Great Recession – complimentary webinar training

- March 2, 2011 from 11:00 AM to noon

This webinar features facility experts, and is a teaser for the upcoming Energy/Facilities Connections Conference to be held May 11-13, 2011 in Leavenworth, WA.

*WSU Extension Energy Program Plant Operations Consortium*

<http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/Conferences/EFCWebinar.aspx>

### In the Trenches – What Makes an Effective Facilities Manager?

#### 15<sup>th</sup> Annual IFMA Seattle Education Symposium

- March 10, 2011 in Lynnwood, WA

Education sessions, networking, trade show and more.

*The Greater Seattle Chapter of IFMA*

[http://www.ifmaseattle.org/flash/IFMA\\_Brochure\\_2011.pdf](http://www.ifmaseattle.org/flash/IFMA_Brochure_2011.pdf) (please note this is a pdf)

### Fundamentals of Efficient Lighting & Controls

- March 15, 2011 in Tigard, OR

For PGE commercial and industrial customers, this half-day seminar presents fundamentals of light and lighting with an emphasis on energy efficiency and controls.

*Portland General Electric, Energy Trust of Oregon, BetterBricks, NEEA.*

[http://portlandgeneral.com/business/news\\_classes/classes/docs/flyer\\_fundamentals\\_lighting.pdf](http://portlandgeneral.com/business/news_classes/classes/docs/flyer_fundamentals_lighting.pdf)

### Lighting Solutions for IEQ and Energy Performance: 2011 BOC Technical Webinar Series

- Lighting Controls for IEQ and Cost Savings  
March 16, 2011
- New Lighting Technology: A showcase of products and applications  
July 21, 2011
- Low Cost/No Cost Lighting Strategies for Cost Savings  
Sept 8, 2011

Live instructional webinars. Open to all, BOC graduates receive CEUs.

*Building Operator Certification*

<http://www.theboc.info/m-live-webinars.html>

### Turning Data Center Energy Hogs Around

- March 18, 2011 in Salem, OR

At this Oregon Association of Professional Energy Managers' Spring Forum, learn how a data "closet" can drive up HVAC costs and how to lower them, about energy saving opportunities in existing data centers, airflow management strategies, and more.

*Oregon Association of Professional Energy Managers*

Register at <https://www.regonline.com/builder/site/Default.aspx?EventID=933238> or visit <http://oregonapem.org> for more information.

### Building Operator's Certification – Washington State

#### • BOC Level I

- March 23, 2011, ending Sept 21, 2011 in Renton, WA
- October 13, 2011, ending Mar 29, 2012 in Silverdale, WA

One day a month of training and project work in building systems maintenance.

#### • BOC Level II

- Oct 18, 2011, ending Mar 6, 2012 in Renton, WA

One day a month of training and elective coursework in equipment troubleshooting and maintenance.

<http://www.theboc.info/wa/wa-schedule.html>

### HVAC Energy Efficiency: Air Conditioning and Refrigeration

- March 30, 2011 in Seattle, WA

Learn how to maintain peak efficiencies of your systems to keep costs down.

*NEEA Industrial Training, sponsored by Seattle City Light, Tacoma Power, Bonneville Power Administration, WSU Energy Program and NW Food Processors Association*

<http://www.regonline.com/Register/Checkin.aspx?EventID=929868>

### Energy/Facilities Connections Conference

- May 11-13, 2011 in Leavenworth, WA

Facility experts provide information and resources for handling fiscal and operational restraints.

*Plant Operations Support Consortium, WSU Extension Energy Program*

<http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/Conferences.aspx>

### Energy Management Certification (EMC)

- July 11-22, 2011 in Eugene, OR

This is an advanced certification program that requires the student to implement an energy-saving project and measure the results. This program teaches a broad spectrum of energy management principles and techniques.

*Northwest Energy Education Institute*

<http://www.nweei.org/emc.html>

### Building Operator's Certification – Oregon

#### • BOC Level I

- Sept 2011 through Mar 2012 in Portland OR

One day a month of training and project work in building systems maintenance.

#### • BOC Level II

- Oct 2011 through Mar 2012 in Portland OR

One day a month of training and elective coursework in equipment troubleshooting and maintenance.

*Northwest Energy Education Institute*

<http://www.nweei.org/boc.html>

### AEE (Association of Energy Engineers) Realtime Online Seminars

Live interactive courses you can complete from your computer. Internet and telephone needed. Programs are generally two to three hours long, but may cover a couple days or more. Check the schedule for more great courses.

- Fast Track CEM Preparatory Course for Energy Managers
- Life Cycle Costing for Energy Professionals
- Energy Auditing Fundamentals
- Developing an Energy Management Master Plan
- Advanced Lighting Retrofit Options
- Quality Lighting for High Performance Buildings
- Converting Energy Audits to Business Plans
- Fast Track CRM Preparatory Course for Carbon & GHG Reduction Managers
- Fundamentals of Lighting Efficiency (CLEP Certification Prep)
- Boiler & Steam System Cost Control: 100 Ways to Save Boiler Fuel
- Motors: Operation, Efficiency & Economics

<http://www.aeepgrams.com/realtime/>

### On-Line AEE Self Study Professional Training Courses

Course titles such as “Basics of Energy Management”, “Fundamentals of HVAC Systems” and “Finance & Accounting for Engineers & Technicians” (new) are available in a home-study format.

<http://www.aeecenter.org/training/>

### Building Operator Certification (BOC) – Recorded Technical Webinars

Technical webinars that offer practical maintenance solutions for your facility. Includes “Energy Tune-up Opportunities”, “IAQ”, “Lighting Retrofits”, and “Using Data Loggers”. For a list of webinars go to:

<http://www.theboc.info/m-prerecorded-webinars.html>.

### BEEP Energy Program

This six-course series offers the information, strategies, technologies, how-to guides, and resources you need to reduce energy and costs...all without leaving your office.

<http://www.boma.org/TrainingAndEducation/BEEP/Pages/curriculum.aspx>

## Resources for You

### Energy Events Calendar

<http://www.energyexperts.org/TrainingEducationandEmployment/EventsCalendar.aspx>

### Plant Operations Support Consortium Orientation Video

Provides information on member advantages, and on the services that members of the Plant Operations Support Consortium receive.

<http://www.energy.wsu.edu/PublicFacilitiesSupport/PlantOperations/OnlineTrainings.aspx>

### Washington RCM Support

Washington State University Energy Program RCM Support

Check out the “RCMx”. We appreciate any feedback on this site and would also appreciate items to add to our resources such as tools, examples of policies, and job descriptions.

<http://www.energy.wsu.edu/PublicFacilitiesSupport/ResourceConservation/RCMx.aspx>

### Oregon RCM Support

Oregon Department of Energy RCM Support

<http://oregon.gov/ENERGY/CONS/RCM/rcmhm.shtml>

**RCM News is prepared by the Washington State University Extension Energy Program**

This activity is funded by the U.S. Department of Energy State Energy Program.  
Funds provided through the Washington Department of Commerce Energy Division.

Previous issues of RCM News may be viewed at <http://www.energy.wsu.edu/PublicationsandTools.aspx>  
(click on Resource Conservation in the right hand column).

Send comments or ideas for articles to Karen Janowitz - [janowitzk@energy.wsu.edu](mailto:janowitzk@energy.wsu.edu)



[www.energy.wsu.edu](http://www.energy.wsu.edu)