

# RCM NEWS

## RCM News for March 2013

A newsletter for Resource Conservation Managers in the Northwest

*In this issue:*

Bioenergy  
Buildings  
Ceilings  
Emissions  
Energy Management  
HVAC/R  
Lighting  
Water  
Upcoming Events & Training Opportunities  
Resources for You

*While every URL in RCM News is checked for accuracy prior to distribution, URLs may change, and servers may temporarily fail to connect to working URLs.*

### Bioenergy

"[Wood-Fired Boiler Installed as Part of School's Green-Energy Initiative](#)" was prepared by staff at the Hurst Boiler & Welding Company Inc. and by Natalie M. Smith of Global Energy Solutions; it was published in the January 2013 issue of *HPAC Heating/Piping/AirConditioning Engineering*. The plant at the Oakdale Research Park of the University of Iowa has a biomass boiler that runs on local wood chips and oat hulls stored in a re-purposed coal bin. The biomass boiler replaced one of four natural-gas boilers. While it runs on biofuel, it is backed up by fossil fuel as the plant can run on either the biofuel or natural gas.

### Buildings

The following five case studies were published in the Winter 2013 issue of *High Performing Buildings*:

1. "[A Building that Teaches](#)" was authored by Chris Brown, AIA, Associate and Sustainable Design Lead at Opsi Architecture, and by Andy Frichtl, PE, Principal and Senior Mechanical at Interface Engineering. It is a case study of the Net-Zero Energy, LEED Platinum, Music and Science Building at the Hood River Middle School in Hood River, Oregon.
2. "[Building with a Mission](#)" was jointly written by Charles Dorn, AIA, Principal at THA Architecture, and Rob Schnare, PE, Associate at Glumac. This is a case study of the LEED-Platinum Mercy Corps World Headquarters in Portland, Oregon. It is truly a combination of the old and the new: an 1892 historic, but run down, building was renovated and doubled in size. The Platinum certification was very dependent on an extremely energy-efficient design.
3. "[Champion for Change](#)" was co-authored by Jane Rath, AIA, Principal at SMP Architects, and Travis Alderson, PE, Principal at Alderson Engineering; it is a case study of LEED-Platinum

Kensington High School for the Creative and Performing Arts in Philadelphia. The design for this high school more than overcame its problematic site which included constant train noise and contaminated soil. Geothermal heat and cooling resulted in dramatic energy savings with a payback period of only four years.

4. "[Prairie Companion](#)" is a case study of Gateway West Sustainable I, the new headquarters for Environmental Systems, Inc. (ESI) in Brookfield, Wisconsin; it was prepared by Mike O'Conner, Energy Manager, and Mike Mittelsteadt, Energy Engineer, both of ESI. The facility, LEED-Platinum in both New Construction (2011) and Existing Buildings O&M (2012) categories, takes advantage of the natural prairie, the environment of the local area to prevent habitat disruption. Daylighting and photovoltaics are among the energy savers built into the design.
5. "[Student Remedy](#)" is a case study of UC Davis Health and Wellness Center; it was written by Steven Guttman, PE, Ted M. Tiffany, and Nadia Sabeh, Ph.D., PE; all are LEED APs with Guttman & Blaevoet. The Center is a LEED-NC Gold facility that outperforms expectations; it features chilled beams, described in detail, in lieu of a traditional HVAC system.

The following three articles were written by members of the editorial staff of *Building Design + Construction* and appeared in the February 2013 issue of that journal:

"[5 Factors to Consider When Designing a Shade System](#)" was written by Amy McIntosh, Associate Editor of *Building Design + Construction* and it appeared in the February 2013 issue of that journal. The article addresses how to ameliorate unwanted glare and heat gain from the sun in an office setting. A properly designed shade system can be controlled for glare and heat gain, but also allow for daylight harvesting.

### Ceilings

"Ceilings" is a three part article written by Maryellen Lo Bosco, Contributing Editor for *Building Operating Management* and published in the January 2013 issue of *Building Operating Management*. Many companies are providing sustainable versions of their products: in the case of ceilings, ceiling tiles may be made of recycled materials and may be recyclable at the end of their useful lives. Also, companies have begun to include environmental product declarations (EPDs) for their customers. According to an industry spokesperson, "The driver has been the inclusion of EPDs as part of LEED."

[Part 1: Five Ways to be Green with Ceilings, Soundmasking](#)

[Part 2: Ceilings Can Aid Green Efforts: Light Reflectance and Acoustics](#)

[Part 3: Ceilings Showcase: New Products](#)

### Emissions

"[Low-NOx Burners for Industrial Boilers](#)" was written by Vince Basilio, PE, CEM; RMF Engineering Inc., and published in the January 2013 issue of *HPAC Heating/Piping/AirConditioning Engineering*. The author explains the causes of low-NOx emissions in the large-scale hot-water-and-steam generation that academic campuses, hospitals, and others require. He addresses how to limit them while remaining within acceptable operating parameters.

## Energy Management

["What's All the Hype about Big Data and Energy Analytics?"](#) was authored by Jack McGowan, CEM, DGCP, President of Energy Control Inc. (ECI), and Chairman Emeritus of the DOE's GridWise Architecture Council; it was published in the February 2013 issue of *Buildings*. The software for energy analytics automates the measuring of energy use making the effective management of energy possible.

## HVAC/R (Heating, Ventilation, Air Conditioning, and Refrigeration)

["Economizers and Energy Recovery Wheels: Heads and/or Tails?"](#) was written by Christopher Curtland, Associate Editor, *Buildings*, and published in the February 2013 issue of that journal. The author suggests the facilities manager take easy and inexpensive energy-efficiency measures ("low hanging fruit") before doing anything else. After that, professional help may be needed to ascertain whether the building's HVAC system is, essentially, sound or in need of replacement or retrofitting. It is at this point that the issue of economizers and/or recovery wheels can begin to be addressed.

## Lighting

"Lighting: Getting Office Lighting Right" was written by Maryellen Lo Bosco, Contributing Editor for *Building Operating Management*, and published in the February 2013 issue of that journal. It is a four-part article on a number of important issues that have bearing on the lighting design of commercial interiors:

[Part 1: Office Lighting Design Must Have More Goals Than Just Energy Efficiency](#)

[Part 2: Solve Lighting Quality Problems by Letting Space Guide Technology](#)

[Part 3: Brightness and Variety Are Challenges to Office Lighting Quality](#)

[Part 4: Avoiding Problems with Office Lighting Design](#)

The following two articles appeared in the February 2013 issue of *Buildings*:

1. ["How Much Is Your Lighting Retrofit Worth?"](#) is a case study of a lighting retrofit at the corporate headquarters of Medical Mutual of Ohio in Cleveland; it was written by Janelle Penny, Associate Editor, *Buildings*. The article includes a helpful set of equations for determining the cost effectiveness of any proposed lighting project.
2. ["Lighting Tune-Ups for Energy Savings"](#) was written by *Buildings* staff. While ENERGY STAR's recommended tune-ups will be part of any retrocommissioning effort, facilities managers are encouraged to include them in their regular in-house maintenance as well.

## Water

["5 Ways to Lower the Exterior Water Flow,"](#) by Janelle Penny, Associate Editor of *Buildings*, was published in the February 2013 issue of that journal. This might be useful for the Resource Conservation Manager to use as a kind of check list in the pursuit of conserving water. The author includes the sidebar "Can't Afford Sensors or Smart Control Yet?"

["Water Budgets: A Holistic Look at Efficiency"](#) is the "BackPage Primer" column in the February 2013 issue of *Environmental Building News*. The author suggests moving on from the moderate water conservation of efficient restroom fixtures to other more conserving measures.

## Upcoming Events & Training Opportunities

### Lighting Design Lab

Portland General Electric offers online webinars and paid courses open to everyone, and seminars and workshops free of charge to its commercial and industrial customers.

- Large Volume Spaces: A Design Approach for Lighting Retrofits - morning
- Office Buildings: A Design Approach for Lighting Retrofits - afternoon

Both classes offered same day

- April 3, 2013 in Bellevue, WA
- April 10, 2013 in Tacoma, WA
- April 17, 2013 in Seattle, WA

[Click for information](#)

*Lighting Design Lab*

### Building Operators Certification

BOC Level I certification is 74 hours of training and project work in building systems maintenance. Level II certification is 61 hours of training and elective coursework in equipment troubleshooting and maintenance. Classes are usually one or two full days a month.

- **Washington State**
  - Level I – Apr. 3 through Oct. 10, 2013 in Seattle
  - Level I – Apr. 24 through Oct. 24, 2013 in Spokane
  - Level I – May 14 through Sept. 17, 2013 in Redmond
  - Level I – Sept. 10, 2013 through Mar. 12, 2014 in Renton
  - Level I – Sept. 17, 2013 through Mar. 5, 2014 in Tri-Cities
  - Level I – Sept. 25, 2013 through Mar. 11, 2014 in Olympia
  - Level II – Oct. 2, 2013 through Feb. 12, 2014 in Lacey
  - Level II – Oct. 3, 2013 through Feb. 13, 2014 in Everett
- **Oregon**
  - Level I – Apr. 9 through Jul. 23, 2013 in Bend
  - Level I – Sept. 11 through Dec. 11, 2013 in Portland
  - Level I – Oct. 1, 2013 through Mar. 4, 2014 on the Oregon Coast (TBA)
  - Level I – Dec. 4, 2013 through Jun 4, 2014 in Clackamas
  - Level II – Apr. 11 through Jun. 19, 2013 in Pendleton

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

[Click for BOC Oregon information](#)

*Building Operators Certification*

### Federal Energy Management Program (FEMP) First Thursdays

FEMP offers free online seminars on a variety of topics the first Thursday of most months. They also have recordings of previous seminars, such as new lighting technologies, implementing deep retrofits and energy-efficient product procurement.

- Solid-State Lighting: Highlighting Indoor Applications – April 4, 2013 online

[http://apps1.eere.energy.gov/femp/training/first\\_thursday\\_seminars.cfm](http://apps1.eere.energy.gov/femp/training/first_thursday_seminars.cfm)

*Federal Energy Management Program*

### Commercial and Industrial Lighting Workshop

- April 9, 2013 in Kalispell, MT
- May 7, 2013 in Idaho Falls, ID

[Click for information](#)

*Northwest Lighting Network*

### AEE (Association of Energy Engineers) Real-time Online Seminars

Webinars and live interactive courses you can take from your computer. Programs are generally two to three hours long, over a period of days. Topics include energy auditing, lighting controls, HVAC systems and much more. Visit their website for a complete list:

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

### Portland General Electric Seminars and Webinars

Portland General Electric offers online webinars and paid courses open to everyone, and seminars and workshops free of charge to its commercial and industrial customers.

- Electrical Safety Awareness – Apr. 9 in Portland
- Energy & Water Trends – Apr. 24 in Portland

[PGE Energy Education Center webpage](#)

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

### Financing Energy Upgrades for K-12 School Districts

This webinar introduces key financing principles and range of options available to schools, and features several school districts who have successfully implemented projects. Space is limited.

- April 11, 2013 online webinar

[Click here for more information](#)

*US DOE EERE*

### 17<sup>th</sup> Annual Education Symposium & Tradeshow

“Solutions Exchange for Facilities Managers” is the title for this year’s International Facility Management Association Seattle Chapter symposium offering tools, strategies and networking opportunities for addressing the challenges of facilities management.

- April 11, 2013 in Lynnwood, WA

[Click here for more information](#)

*IFMA*

### Showcase for Emerging Technologies Webinar

Hour-long noon webinars featuring emerging technologies topics

- Advanced Lighting Control Systems – April 17, 2013 online
- National Energy Efficiency Technology Roadmap Portfolio – April 30, 2013 online

[Click here for more information](#)

*WSU Energy Program, BPA, WAPA*

### Best Applications for LED Lighting

This is a BOC 2013 Technical Webinar offering live instruction and provides 1.5 hours of CEU upon successful completion towards maintaining a BOC Certification.

- April 30, 2013 Online webinar

[Click here for more information](#)

*BOC*

### 9<sup>th</sup> Annual Energy/Facilities Connections Conference

"From Coveralls to the Corner Office" is the title of the 2013 conference, which is a 2½ day event bringing together experts and colleagues for workshops, hands-on training, networking and useful information related to facilities and energy.

- May 7-9, 2013 in Leavenworth, WA

[Click for registration information](#)

*WSU Energy Program*

### 2013 Powerful Business Energy Conference

This conference is designed for commercial building owners and managers, building operations and engineering staff, architects, consulting engineers, property developers, and others interested in cost-effective opportunities in commercial energy efficiency. Essential energy-related ideas and operating tips will be taught in four tracks.

- May 23, 2013, Meydenbauer Center, Bellevue WA

Conference information:

[Click here for information](#)

*Electric League of the Pacific Northwest*

### Energy Management Certification

Also known as the EMC Boot Camp, this is an advanced certification program which goes beyond fundamentals and teaches a broad spectrum of energy management principles and techniques. It requires the student to implement an energy-savings project and measure the results.

- July 8 - 19, 2013 in Eugene, OR

[Click for information and registration](#)

*Northwest Water & Energy Education Institute (NWEEI)*

## Resources for You

### Resource Conservation Websites

Does your agency or school have a Resource Conservation website or newsletter that you would like to share with other RCMs? If you do, contact the editor of RCM News at [janowitzk@energy.wsu.edu](mailto:janowitzk@energy.wsu.edu) to get it mentioned here. The Olympia School District has a [Resource Conservation website](#) that features links to their newsletter, policies and plans, as well as educational resources and tips on reducing use of energy, waste, and water.

### State and Local Energy Efficiency Action Network (SEE Action)

SEE Action is a state- and local-led effort facilitated by the U.S. Department of Energy and the U.S. Environmental Protection Agency to take energy efficiency to scale and achieve cost effective energy efficiency by 2020. SEE Action offers publications, events, and technical assistance to state and local decision makers.

<http://www1.eere.energy.gov/seeaction/>

### Energy Events Calendar

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

## Washington RCM Support

The Washington State University Energy Program provides RCM support.

Check out the "RCMx" website:

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

### **RCM News is prepared by the Washington State University 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.

This project is funded in whole or in part by funds made available through the American Recovery and Reinvestment Act (ARRA). This funding was awarded by the US Department of Energy through the Energy Policy Division of the Washington State Department of Commerce under Energy Efficiency and Conservation Block Grant No.DE-EE0000849

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).

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

