

# RCM NEWS

## RCM News for September 2014

A newsletter for Resource Conservation Managers in the Northwest

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### Data Centers

A five-part article on Data Centers, written by Derek Tynan and appearing in the September 2014 issue of *Facility Maintenance Decisions*, discusses four important components that need to be addressed for reliable, efficient data centers. Redundancy, adaptability, protection, and monitoring and reporting requirements must be understood by facility managers for successful data center upgrades.

- Part 1: [Data Center Upgrades for Reliability and Energy Efficiency](#)
- Part 2: [Redundancy Ensures Data Center System Availability if Components Fail](#)
- Part 3: [Adaptability Important to Efficient Data Center Operation](#)
- Part 4: [Controlling Condensation, Temperature Important to Protect Data Centers](#)
- Part 5: [Remote Access Helps Managers' Ability to Control Data Center Systems](#)

### Energy Benchmarking

"Green Building Report" is a five-part web article written by Helen Kessler which appears in the September 2014 issue of *Building Operating Management*. The core of the article is the growing effort by cities and states to require energy benchmarking through ordinances, and why this is happening. The article clearly and concisely explains the benefits of benchmarking and how it can reduce operating energy costs. A Chicago high rise is used as an example how benchmarking saves money, and the last part discusses new credits in LEED v4.

- Part 1: [How Energy Benchmarking Ordinances Can Help Facility Managers Save Money](#)
- Part 2: [Understanding Energy Benchmarking Ordinances](#)
- Part 3: [Strategies To Reduce Operating Costs Using Energy Benchmarks](#)
- Part 4: [Energy Benchmarking Is First Step To Savings For Chicago High Rise](#)
- Part 5: [New Operations and Maintenance Credits in LEED v4](#)

An article in the September 2014 issue of *Buildings* titled "[Weather Trending for Energy Performance](#)", written by Janelle Penny, discusses the reasons why removing weather's effect on energy consumption data gives a more accurate comparison of annual facility performance. Using excel and your building's utility data, the article walks you through steps to "normalize" data by using heating and cooling degree

days. Note that a comment after the article discourages the use of degree-days, per the ASHRAE Handbook, for any buildings other than single-family houses occupied 24/7.

## HVAC

A two-part article on HVAC appears in the September 2014 issue of *Building Operating Management*, written by David Brooks. Variable only, primary flow chilled water pumping improves upon earlier systems which used only one or no variable frequency drives (VFD). They have numerous benefits for facilities with large pumping loads or that are operated continuously. Retrofits are challenging, but possible.

Part 1: [Cost Savings From Variable Only, Primary Flow Chilled Water Pumping](#)

Part 2: [Design Challenges For Variable Primary Flow Chilled Water Pumping](#)

## Terminology

“[Energy & Power](#)”, written by John Siegenthaler and published August 2, 2014 in *HPAC* magazine, discusses the terminology used for units of energy and power. The article is a bit like a short refresher course, reviewing a few basic concepts, and indicating the most common unit terms for concepts such as mechanical energy, thermal energy, and hydronics. The author’s intent is for increased professionalism by the use of correct terminology and units.

## Upcoming Events & Training Opportunities

### Energy Efficiency of Chilled Water Systems

### Energy Efficiency of Cooling Towers

Register for one or both of the full day classes.

- Oct. 1 and Oct. 2 in Portland – CLASS MAY BE FULL but there is a waiting list

[More information](#)

- Oct. 28 and Oct. 29 in Spokane

[Click here for more info](#)

*NEEA Industrial Training*

### Lighting Design Lab Fall 2014 Series

These classes are popular, sign up early.

#### **Rethink Lighting in an LED World – morning class**

#### **Lighting Innovations and Trends – afternoon class**

- Oct. 2 in Everett, WA
- Oct. 9 in Seattle, WA
- Oct. 17 in Portland, OR
- Oct. 21 in Boise, ID
- Oct. 23 in Tacoma, WA

[Click here for more information](#)

*Lighting Design Lab and many partners*

### The Upcoming Lighting Revolution – Oregon APEM Fall Forum

The Oregon Association of Professional Energy Managers’ 2014 Fall Forum delves into emerging trends in lighting, specifically color-temperature tunable LEDs and impacts on human behavior.

- Oct. 3, 2014 in Portland

[Click here for more information](#)

*Oregon APEM*

### 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. All classes in Oregon or online.

- Intro to HVAC Systems – Oct. 7 in Portland
- Advanced HVAC Systems – Oct. 8 in Portland
- Variable Frequency Drives – Oct. 9 in Portland
- Efficient Irrigation Systems – Oct. 16 in Wilsonville
- Fundamentals of Compressed Air Systems – Oct. 22 in Wilsonville
- Employee Engagement in Energy Efficiency Workshop – Nov. 6 in Hillsboro

### [PGE Energy Education Classes](#)

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

### 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 usually meet one or two full days a month over a period of four to six months.

*All dates below are for the first class.*

- **Washington State**
  - Level I – Oct. 23, 2014 in Longview
  - Level II – Oct. 1, 2014 in Everett[Click for BOC Washington state information](#)
- **Oregon**
  - Level I – Oct. 7, 2014 in Portland
  - Level I – Feb. 4, 2015 in Pendleton[Click for BOC Oregon information](#)

*Building Operators Certification*

### ENERGY STAR® Portfolio Manager Trainings

All are online webinars.

- Energy Treasure Hunts: Simple Steps to Finding Energy Savings – Oct. 8
- Portfolio Manager Office Hours, Focus: Data Centers and IT Energy – Oct. 16
- Financing Energy Efficient Upgrades with ENERGY STAR® - Oct. 21
- Verifying the ENERGY STAR® Certification Application – Oct. 23

[Click here for more webinars and information](#)

*US EPA*

### ENERGY STAR® Low Carbon IT Webinars

- Data Center Energy Efficiency Opportunities: What Managers Should Know – Oct. 9 online webinar
- Computer Power Management with ENERGY STAR – Oct. 16 online webinar

[Click here for more information](#)

*US EPA*

### E3T Showcase – Engine Generator Block Heaters

A Bonneville Power Administration Qualified product, block heaters reduce energy use while keeping generators ready to operate immediately.

- Oct. 15 online webinar

[Click here to register](#)

*WSU Energy Program, BPA, WAPA*

### School Environmental Health and Safety Workshop

Free one-day workshops held around Washington State. Topics this year include indoor air quality, cleaning and disinfection, and integrated pest management.

- Oct. 15 in Pasco
- Oct. 22 in Redmond
- Oct. 28 in Yakima
- Oct 30 in Spokane
- Nov. 6 in Vancouver
- Nov. 21 in Wenatchee
- Dec. 10 in Silverdale
- Dec. 11 in Anacortes
- Dec. 18 in Tumwater

[Click here to register](#)

*Washington State Department of Health*

### Energy Auditing and Troubleshooting

This webinar focuses on how to estimate energy consumption of refrigeration, compressed air end uses, HVAC, lighting, and office equipment, without the need for submetering.

- Oct. 21, 2014 live webinar

[Click here for more information](#)

*Northwest Regional Industrial Training*

### Pumping System Optimization

- Oct. 23, 2014 in Eugene, OR

[Click here for more information](#)

*NEEA Industrial Training*

### Strategies to Help Reduce Peak Use

This BOC webinar discusses strategies to cut energy use during high demand periods.

- Oct. 23, 2014 live webinar

[Click here for more information](#)

*Building Operators Certification*

### Adjustable Speed Drive Applications and Energy Efficiency

This all-day course discusses choices, issues, and energy cost savings related to adjustable speed drives with electric motors.

- Nov. 4, 2014 in Albany, OR

[Click here for more information](#)

*NEEA Industrial Training*

### Future Energy Conference

Washington State's clean energy event explores the nexus of energy, climate change, and the state's economy.

- Nov. 5, 2014 in Seattle

[Click here for more information](#)

*WA State Dept of Commerce & NW Environmental Business Council*

### 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.aeeprogams.com/realtime/>.

### Resources for You

#### Green Ribbon School and District Applications now open

Washington State public and private schools, as well as public districts, are eligible to apply to be recognized as a U.S. Green Ribbon School/District. Applications are scored by a state committee, and up to four schools or districts are nominated as state finalists and forwarded on to the U.S. Dept. of Education, which selects national award recipients. Schools and districts are chosen based on significant progress towards reducing environmental impact and costs, improving the health and wellness of students and staff, and providing effective environmental and sustainability education. The deadline to apply is January 9, 2015. More information and applications are available at the [Office of Superintendent of Public Instruction website](#).

#### Small Commercial Building Re-Tuning: A Primer

The Pacific Northwest National Laboratory (PNNL) created the [Small Commercial Building Re-Tuning Primer](#) (note this is large PDF file) that provides background information on basic building operations and building energy terminology. It's a great refresher and handy resource for RCMs. The primer was developed to provide additional understanding, if needed, for participants in [building re-tuning trainings](#), whose curricular was developed by PNNL and the U.S. Department of Energy's (DOE) Better Buildings workforce initiative. Re-tuning is a process to identify and correct building operational problems, at little or no cost, that lead to energy waste – an activity familiar to RCMs.

#### Do you have newsletters, websites and links to share? Do you have RCM questions?

RCM News is always looking for interesting information, tips and resources to share with other resource conservation managers. Our goal is to increase your success by sharing what you and your colleagues are doing – with energy efficiency measures, problem-solving, communication, data tracking, presentations, and more. In addition, WSU Energy Program can help find solutions to your RCM program's technical and programmatic questions. [Email Karen J](#) to share and ask!

#### 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.

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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)

