

## RCM News for October 2010

A newsletter for Resource Conservation Managers in the Northwest

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### Buildings

"CMMS: Masters of Multitasking" was written by Lindsay Audin, President, EnergyWiz, and Contributing Editor, *Building Operating Management*; it is a three-part article published in the September 2010 issue of that trade journal:

Part 1 is [CMMS Capabilities](#). Computerized maintenance management systems (CMMS) are defined in terms of the tasks they can perform. Initially, CMMS were used in the industrial sector; later they began to be employed in buildings management; now buildings maintenance is part of their portfolios.

Part 2 is [CMMS: Worth the Cost?](#) To answer that question, data need to have been collected that indicate how productivity and services are costing and performing in the first place.

Part 3 is [Integrating CMMS with Other Building Systems](#). To get the most out of CMMS, building systems integration is necessary. Examples of how advantageous such integrations can be are offered.

"Energy Savings: Sweating the Details" is a two-part article by Naomi Millán, Associate Editor, *Building Operating Management*, published in the September 2010 issue of that journal:

Part 1 is [Common Sense Strategies for Energy Efficiency](#). It describes Energy Star's National Building Competition and makes the point that energy efficiencies in buildings can be made without resorting to expensive, hard-to-find products. It is more than sufficient to develop strategies that involve technologies and products that have been around for a while and have been well-documented as energy savers.

Part 2 is [Commissioning Systems, Evaluating Loads for Energy Savings](#). It describes the next steps for a facilities manager to take after attention has been given to the basic strategies outlined in Part 1, above.

"[54-Year-Old School Is a Green Lab](#)," by staff, was published in *Air Conditioning, Heating & Refrigeration News*, August 2, 2010. A city school district hired an architectural firm to test a variety of green building technologies in one of its schools, the Minnie Howard Middle School in Alexandria, Virginia. The technologies included geothermal and zoning-HVAC systems (using VRF – variable refrigerant flow – technology), heat pumps, tubular skylights, and low-flow plumbing appliances. The article describes the dismantling of older systems and fixtures and changing them out with the new ones. The energy savings are dramatic.

"[Lessons Gleaned from the Re-Planting of a School's Failed Green Roof](#)" by Michael Furbish, LEED AP, is a case study of a vegetated re-roofing, published in the September 2010 issue of *ED+C (Environmental*

*Design + Construction*). Because plants are native to a particular geographical area does not mean that they are suited to every place within that area, whether on a roof or under a tree or in full sun. The roof of a middle school in Washington, D.C., is re-done with that in mind.

"[VRF – An Underappreciated Technology in the U.S.](#)" is an article on **pages 6-7** of the Summer 2010 issue of *ShopTalk*: it was written by Marcia Karr, ME, PE, and Energy Engineer, WSU Extension Energy Program. The author discusses VRF (variable refrigerant flow) – also known as VRV (variable refrigerant volume) – a heating and cooling system that should be one of several options to consider for commercial buildings, whether new or existing. The technology is clearly described, along with notes on installation, maintenance, appropriate applications, and the advantages of a VRF system in the right application. The article concludes with links to further information on the topics.

The following two articles appeared in the June 2010 issue of *Engineered Systems*:

1. "[Oregon Trailblazing: Greener Student Housing With VRF](#)" was co-authored by Mark Heizer, P.E., LEEDAP, Interface Engineers, and Brad Wilson, P.E., LEED AP, PAE Consulting Engineers, et al. Two new resident halls at Pacific University near Portland, Oregon, achieve LEED-Gold certifications due, in part, to a newly installed variable refrigerant flow system – see author Marcia Karr's article, above, for technical information about VRF technology and see the first entry "54-Year-Old School Is a Green Lab," above, for another application example for VRF.
2. "[Silver Lining in Campus Building Renovations](#)" was written by Tad Bandurowski, P.E., Vice President of Facilities Engineering, and Design Services Core Business Leader for Erdman Anthony. The author discusses how to make the decision to reuse/repurpose existing structures and then cites three successful academic campus efforts at Millersville University, the University of Buffalo, and Binghamton University.

## Building Envelope

"Building Envelopes: Component Inspections and Replacement" was written by James Piper, P.E., and published in the September 2010 issue of *Maintenance Solutions*:

Part 1 is [Building Envelopes: Minimize Air, Water Leaks](#). It, briefly, makes the case for keeping up with the maintenance of building envelopes.

Part 2 is [Building Envelopes: Inspection Requirements for EIFS](#). It includes discussion of roofs and exterior walls in the context of thorough inspection programs that reveal roof damage and water and air penetration of walls.

Part 3 is [How to Replace Building-Envelope Components](#). It discusses maintaining vs. replacing building envelope components, noting at what point it is time to replace them.

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

"HVAC Upgrades: How-to Tips," by Loren Snyder, Contributing Editor, *Building Operating Management*, is a three-part article published in the September 2010 issue of that trade journal:

Part 1 is [Planning and Coordination Helps HVAC Projects Succeed](#). Part 1 includes advice about and examples of proper planning.

Part 2 is [Measuring the Benefits of HVAC Upgrades](#). Part 2 shows, with examples, how important it is to continually monitor system activities.

Part 3 is [Making the Case for HVAC Retrofits](#). The author interviewed three facilities managers who, briefly, discuss their different HVAC upgrades.

## Indoor Air Quality

The final issue of [Indoor Air Quality in Northwest Schools \(Spring 2010\)](#) is posted on the WSU Energy Program's website. It provides several articles of interest to managers of school facilities and resources and, in at least one case, to managers of municipal and state government facilities and resources, as well. The article that begins on page one, "Understanding Human Comfort... More than Just Temperature and Humidity," provides a valuable table showing the connection of relative humidity to *air* temperature vs. *perceived* or *sensed* temperature. This is a distinction that is important to consider whether one is managing a government office building or a school, and the table makes it easy to see the quantified difference in comfort levels as humidity increases. Additionally, the three-page article that includes the table is very informative. For the school facilities manager, "HVAC Basics for Teachers," beginning on page two, is a gem. Written by Dave DeLong and Tim Hardin, both of the Tacoma/Pierce County Health Department, it is a guide that resource conservation and efficiency managers might introduce to teachers at their schools.

## Lighting

"[Lights On or Off MiniMyth](#)" is a short video from television's Mythbusters. Often lights are left on to avoid the cost of the surge of power needed every time they are turned on. This video demonstrates that the surge is equal to only a few seconds of the power used while the lights are on. Thus it saves energy and energy costs to turn lights off when they are not needed. [A very brief advertisement may appear before the Mythbusters video begins.]

## Opportunities

Educators needed for Edmonds Community College Energy Management Program. Instructor openings for **ENRGY 245 - Energy Management Planning and Operations** and **ENRGY 250 - Energy Efficiency Program Planning and Design** Winter and Spring quarters of 2011.

Contact Duane Lewellen at 425-774-3829 or [dlewellen@ricegroup.com](mailto:dlewellen@ricegroup.com) if interested.

More information about the program at [www.edcc.edu/energy](http://www.edcc.edu/energy).

## Upcoming Events & Training Opportunities

### School Environmental Health & Safety Workshop

#### WA State Dept of Health

Nov. 2 in Yakima, WA

Nov. 3 in Wenatchee, WA

Nov. 4 in Pasco, WA

Nov. 5 in Spokane, WA

Nov. 17 in Vancouver, WA

Nov. 30 in Bremerton, WA

Dec. 2 in Tumwater, WA

Dec. 7 in Redmond, WA

Dec. 8 near Mt. Vernon, WA

Current information on Washington State school environmental health and safety issues, including Indoor Air Quality.

<http://www.doh.wa.gov/ehp/ts/School/agenda.pdf>

### Smart Metering, Load Profiling & Demand Response

Online live seminar –identical sessions below:

- Nov. 3-5, 2010
- Dec. 13-15, 2010

A series of three interactive live two-hour time modules, this seminar shows you how to analyze “smart meter” data to gain a clearer understanding of your electrical loads and to use the information to control and minimize peak demand and energy costs.

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

#### HVAC, Building Tune-Up & Commissioning

Nov. 4, 2010 in Wilsonville, OR

Portland Gas and Electric

Free to PGE Business Customers

[http://www.portlandgeneral.com/business/news\\_classes/classes/11\\_classes.aspx](http://www.portlandgeneral.com/business/news_classes/classes/11_classes.aspx)

#### A Living Case Study on Continuous Improvement of Energy Performance at the Banner Bank Building

November 4, 4:30-6:00PM, Boise, ID

Integrated Design Lab (IDL) Boise

<http://www.eventbrite.com/event/888697117>

#### Future Energy Conference

Nov. 9-10, 2010 in Seattle, WA

[www.futureenergyconference.com](http://www.futureenergyconference.com)

#### NW Clean & Affordable Energy Conference

Nov. 12-13, 2010 in Portland, OR

<http://www.nwenergy.org/get-involved/conference/>

#### Building Operator Certification (BOC) – Level I and Level II Certification course schedule

Ideal for operations and maintenance staff working in public and private commercial buildings. Classes meet one day a month.

##### Level I courses

Nov 15, 2010 in Butte, MT

Nov 16, 2010 in Portland, OR

<http://www.theboc.info/wa/wa-schedule.html#se-10>

For BOC courses in Oregon, go to <http://www.nweei.org/boc.html>

#### Basics of Electricity & Managing Energy Costs

Nov. 16, 2010 in Salem, OR

Nov. 17, 2010 in Wilsonville, OR

Nov. 18, 2010 in Portland, OR

Portland Gas and Electric

Free to PGE Business Customers

[http://www.portlandgeneral.com/business/news\\_classes/classes/11\\_classes.aspx](http://www.portlandgeneral.com/business/news_classes/classes/11_classes.aspx)

#### 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/>

#### Energy Events Calendar

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

## Resources for You

### Olympia School District Resource Conservation Newsletter – Green Wire

The Green Wire posts Resource Conservation news about the Olympia School District plus news and information about environmental topics that effect everyone. Puget Sound Energy recognized RCM Bonnie Meyer and the Green Wire Newsletter for Best Public Outreach in 2010.

[http://osd.wednet.edu/schools/resource\\_conservation/green\\_wire\\_newsletter](http://osd.wednet.edu/schools/resource_conservation/green_wire_newsletter)

### Building Symptom Diagnosis Tool

BetterBricks has a new online tool that helps you find the underlying cause of poor energy performance in your building. Select the appropriate equipment (including air distribution, chillers, and sensors) on the website to see a list of specific symptoms. Each symptom has a list of possible causes.

<http://www.betterbricks.com/DetailPage.aspx?ID=493> .

### Washington RCM Support

Washington State University Energy Program RCM Support

Check out the “RCMx” where we have moved the RCM Guidebook into web format. 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/projects/rem/rcm.cfm>

### Oregon RCM Support

Oregon Department of Energy RCM Support

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

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Previous issues of RCM News may be viewed at the WSU Energy Program RCM support page:

<http://www.energy.wsu.edu/rcmx/Meetings.aspx>

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