

RCM NEWS

RCM News for January 2019

A Newsletter for Resource Conservation Managers in the Northwest

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ANNOUNCEMENTS

[Registration is now open](#) for the 13th Annual Energy/Facilities Connections Conference! The event takes place May 7-9, 2019 at the Enzian Inn in Leavenworth, WA. The theme of this year's conference is *Shaping a Sustainable Future*, and focuses on issues facing facilities leadership in planning for energy efficiency and resource management. Building maintenance, personnel, facilities security, and more are also addressed.

ARTICLES

Rooftop HVAC

["Oregon Department of Fish & Wildlife Reels in Energy Savings and Indoor Comfort"](#) is a case study from BetterBricks, a project of the Northwest Energy Efficiency Alliance. A very inefficient rooftop HVAC unit was replaced with a very high efficiency dedicated outside air system which separates heating and cooling from the ventilation system. The result was lower energy use, fresher air, and happier occupants.

Variable Refrigerant Flow

["Are Energy-Saving VRF Systems Worth the Money?"](#), written by Janelle Penny, appears online on 1/17/19 in *Buildings Magazine*. Variable refrigerant flow (VRF) is an HVAC technology that is conducive

to retrofits and can reduce HVAC energy costs more than 30 percent. The higher upfront cost of VRF is a barrier to increased use in the U.S., yet the long-term savings in some situations can be worth the expense. Unlike conventional HVAC which can either heat or cool, the refrigerant amount in VRF systems can fluctuate which allows for simultaneous heating or cooling, or both, in the same system.

A four-web page article on variable refrigerant flow systems (VRF) was published in the *Building Operating Management* January 2019 issue, and written by Aubrey Kohler. The article discusses the differences between heat recovery VRF and heat pump VRF systems, as well as how to improve their energy efficiency. Tips for getting the best use out of a VRF include adding an auxiliary heat source, choosing the best and most appropriate insulation for the refrigerant piping, and installing units on a pedestal or mounting stand. In addition, it is important to understand safety concerns with the refrigerants that are used in VRFs. ASHRAE addresses safety with two standards – ASHRAE Standard 15 and ASHRAE Standard 34.

Part 1 – [Understanding Your Variable Refrigerant Flow \(VRF\) Options](#)

Part 2 – [How To Improve the Energy Efficiency of a VRF System](#)

Part 3 – [6 Best Practices for VRF Systems](#)

Part 4 – [Understanding VRF Safety Standards and Codes](#)

Virtual Reality

“[Virtual Reality Can Bolster Energy Efficiency](#)”, written by Naomi Milán and published January 18, 2019 online for *Building Operating Management*, shares findings from an energy efficient behavior study on the dynamic relationship between humans and machines. Office occupants complied more readily to requests to reduce energy use when the request came from a virtual assistant that was part of a facility team than to a virtual assistant just representing the building. Compliance was also more positive if the virtual assistant, whether the building or part of the team, “chatted” with the occupants first.

UPCOMING EVENTS & TRAINING OPPORTUNITIES

Washington Green Schools Training

Washington State school RCMs and Energy Managers, along with other school staff, can attend a training to organize a green team and get recognition for your school.

- February 5, 2019 – Snohomish County
- February 7, 2019 – Clark County
- February 13, 2019 – Spokance County

[Click here for more information](#)

Washington Green Schools

Tier 2 Advanced Power Strips

The next generation of plug control.

- Feb 7 online webinar

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

Seventhwave

Building Operator Certification Technical Webinar Series

- Latest on Lighting, Luminaire Level Lighting Controls – Feb 20, 2019 webinar
- Design for Off: Dedicated Outdoor Air Systems with Heat Recovery – March 14, 2019 webinar

[Click here for more information](#)

Building Operators Certification

The Design Maintenance & Operations of Building Systems, Part 1

A BOMI International course

- Six Thursday afternoons starting Feb 21, 2019 – Seattle

[Click here for more information](#)

Building Owners and Managers Association (BOMA) Seattle King County

2019 Spring Lighting Design Lab Classes

- Introduction to Daylighting Design, 100 Level Class
- Promoting Energy Efficiency, 100 Level Class
 - Feb 27, 2019 in Everett
 - ➔ Register for one or both classes, see webpage for times
- Effective Office Lighting, 200 Level Class
 - Feb 27, 2019 in Seattle
 - Mar 6, 2019 in Everett
- Advanced Lighting Controls LC – 2-day 300 Level Hands-on Workshop
 - Feb 21 & 22, 2019 in Seattle
- Lighting for Schools K-12 Workshop – 4-hour 300 Level Hands-on Workshop
 - Apr 11, 2019 in Seattle

[Click here for more 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 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 classes
 - April 15, 2019 through October 2019 in Burlington, WA
 - Sept 25, 2019 through March 2020 in Seattle
 - Fall 2019 TBA in Tacoma
 - Level II classes
 - March 12, 2019 through August 2019 in Seattle

[Click here for BOC Washington State information](#)

- Oregon
 - Level I classes

- Sept 2019 TBA in the Portland area

[Click here for BOC Oregon information](#)

Building Operators Certification

Powerful Business Energy Conference

A bi-annual conference offering practical energy solutions and opportunities regarding energy efficiency projects.

- April 4 in Lynnwood, WA

[Click here for more information](#)

Electric League of the Pacific Northwest

International Living Future

- April 30 – May 3 in Seattle

[Click here for more information](#)

International Living Future Institute

Energy/Facilities Connections Conference

- May 7-9 in Leavenworth, WA

[Click here for more information](#)

Washington State University Energy Program

RESOURCES

Water Evaluation Data Tool

Collect data about your building's water use with the Federal Energy Management Program's (FEMP) [Water Evaluation Data Tool](#). The FEMP tool is comprised of a handbook for performing a walk-through survey, data collection forms, and an Excel-based workbook to enter and organize data. These will help you estimate water consumption for plumbing fixtures, irrigation, commercial kitchen equipment, and cooling tower water. Other resources on the website include overviews of water-saving technologies, operations and maintenance guidelines on common water equipment, and 14 best management practices for water efficiency.

Toolbox Talk Cards

Test your knowledge, discuss, and learn about commercial energy efficiency with [Toolbox Talk Cards](#) from the Northwest Energy Efficiency Alliance (NEEA). Before downloading, note that the PDF file is over 117 MB and is part of the [SEM hub resource collection](#), which aims to help adoption of strategic energy management practices. The "cards" contain a question on one side, with answers and discussion points on the reverse side. There are 130 questions in 14 categories including building envelope, lighting, scheduling, air handling systems, HVAC controls, water heaters, server rooms, and utility billing. System checklists are also included. A sample of the questions are: "What are some symptoms of building envelope leakage?"; "What does it mean if an LED claims L70 after 50,000 hours?"; "What are the three factors that determine fan power?"; "How can a pneumatically controlled building advance and become more energy efficient without a costly and disruptive overhaul?"; and; "What is a data center?".

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](#) to share and ask!

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

