

*The*



*Tumbleweed*

<http://www.midcolumbia.ashraechapters.org>

**Electricity Infrastructure Operations Center Tour – Rob Pratt**

***Don't Miss This  
Month's Event***

December 12, 2006

**Moving From Blue  
to Green –  
ASHRAE's Jour-  
ney to Sustain-  
ability**

*Details on page 3*

The Mid Columbia Chapter of ASHRAE had its first look at the Electricity Infrastructure Operations Center (EIOC) located in the Math building of the Pacific Northwest National Laboratory. The six members who braved the weather on November 14th and showed up for the tour were not disappointed. his research and training facility was commissioned in June, 2006 and is a replicate of an electric utility control room work environment. It was designed as a highly sophisticated training lab for power grid operators and utility managers and where they can rehearse operations and learn how to respond to common (or uncommon) transmission and distribution challenges they could face in real-life situations. The EIOC bridges the capabilities of today's grid control center to tomorrow's energy operations, which involve a more complex set of resources and enhanced operating paradigms. Not only does the EIOC help define the current performance of the overall energy system,

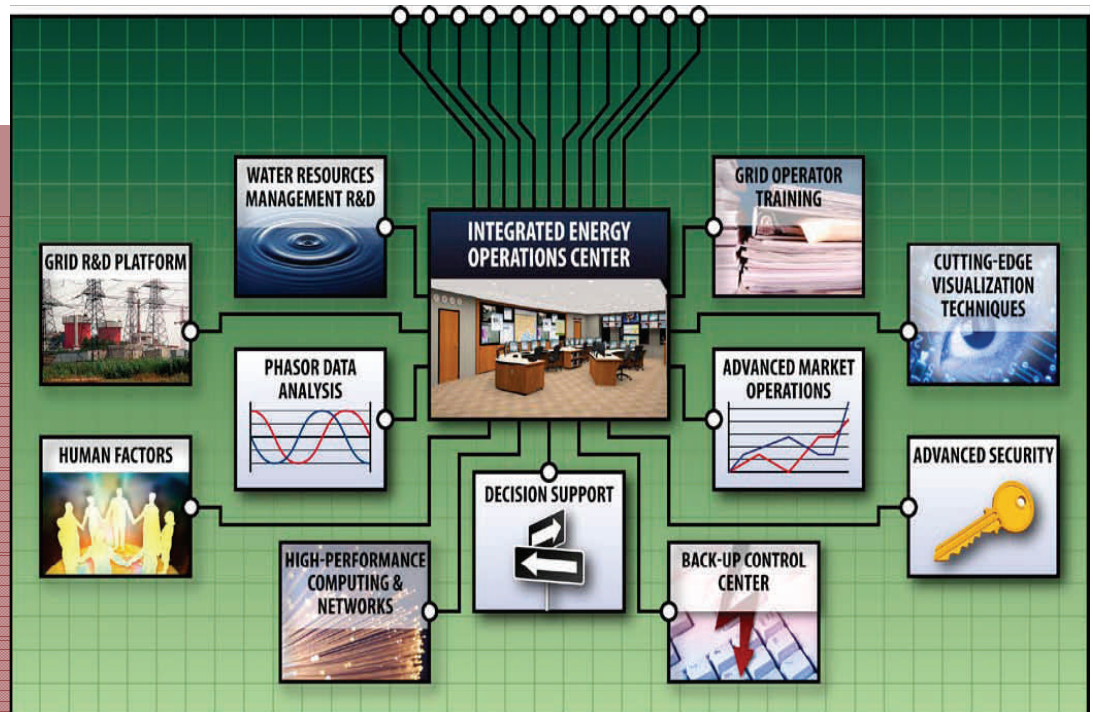
the Center also focuses on how specific technologies or other operational changes can improve it (See Diagram below).

Rob Pratt, a staff scientist in the Energy Science and Technology Directorate (ESTD) and a key player in developing the EIOC, demonstrated the system software capability and some of the realistic training scenarios offered with this facility. As we all know, the possibility of another energy shortage including black-outs or brown outs is very real. This tour provided ASHRAE members the opportunity to see future possibilities relating to energy distribution as well as energy consumption patterns in this country.

When Rob started to describe a new GridWise demonstration project involving several hundred homes from around the region, he got the audience's attention. For a more detailed description of this project, please go to Page 2.

**Inside this issue:**

Message from the President	2
News You Can Use	2
This Month's Event	3
Program Calendar (2006-2007)	3
Mid Columbia ASHRAE Board and Committee Chairs	4
Future ASHRAE Meeting Dates	4





*Chapter President Bing Liu*

## Message from the President

I hope you all had a very cheerful Thanksgiving holiday! We had a very well presented technical tour at the new Electricity Infrastructure Operations Center (EIOC) in November. I want to pass along my heartfelt “thanks” to our presenter Rob Pratt, and to Dr. Sriram Somasundaram, who stepped up to the plate and hosted the tour.

This month, as we are embracing the holiday season, I hope to see you at our Christmas dinner meeting on December 12<sup>th</sup> at the Shilo Inn Hotel. We will be especially welcoming our ASHRAE members’ spouses and guests to join us for this dinner meeting. As is our Chapter’s tradition, if you attended the November meeting, you can bring your spouse or one guest to our holiday dinner meeting for free. This month’s presentation will feature Ron Jarnagin, staff scientist at PNNL. He will be talking about ASHRAE’s path towards sustainability so mark your calendar for December 12!

Research Promotion Chair Gil Hibbs will also host a RP night at this month’s dinner meeting. So don’t forget to bring your check book and thank you in advance to support ASHRAE’s research projects.

The plan for January is to welcome ASHRAE’s Distinguished Lecturer Ken Peterson’s presentation. Ken is also ASHRAE’s President-Elect and he will be presenting the role of controls to achieving acceptable indoor air quality. So keep the date open for this high quality program meeting on January 16<sup>th</sup>.

I’ll look forward to seeing you at our Christmas dinner meeting.

Have a Very Happy Holiday,

*Bing Liu*



## GridWise Demonstration brings power to the People

*Can electric utilities use a mixture of demand response (DR) and distributed generation (DG) to defer construction of transmission lines and manage peak loads?*

An ongoing GridWise demonstration project suggests utilities can mix and match DR and DG. Researchers are also gaining insight into energy consumers’ behavior while testing new technologies designed to bring the electric transmission system into the information age. Approximately 200 homes on the Olympic Peninsula in Washington State are receiving real-time price information through a broadband Internet connection and automated demand-response thermostats and water heaters that adjust energy use based on price. Fifty of those homes and an additional 50 homes in Yakima, Washington, and 50 homes in Gresham, Oregon, have computer chips embedded in their dryers. These chips sense when the power transmission system is under stress and automatically turn off certain functions briefly until the grid can be stabilized by power operators. As the first part of the

study, PNNL and its partners set out to provide residential power customers with two things:

1. constantly updated pricing information; and
2. tools to reduce usage in peak periods (when power is most expensive).

The program participants receive pricing information via a two-way broadband internet connection, set up and managed by IBM. The automated controls installed in participants’ homes can respond to energy price changes every five minutes. GridWise planners hope to achieve a savings of 1.5 to 1.75 kW per home with this system.

In addition, industrial and commercial customers are allowing their existing backup generators to produce power for local distribution to relieve the electric grid at periods of peak use. The study is looking at the value of these approaches not just to generation and transmission systems but to individual substations as well.



## This Month's Event



# Moving From Blue to Green — ASHRAE's Journey to Sustainability

**Ronald E. Jarnagin**  
Staff Scientist, Energy Science and  
Technology Directorate, PNNL

ASHRAE is a 100+ year old technical society that for years has prided itself on the immense technical resources of the organization and its members. As a fairly conservative organization, ASHRAE has been resistant to changes in the way it did business. In the current business environment there is more demand on member's time and a greater need for technical societies to show relevance to continue to attract new members and retain existing members. The issues surrounding Sustainability are becoming more paramount in today's environment. This presentation will provide an insight into the actions ASHRAE is taking and the changes the society is undergoing as it moves from its traditional conservative role, personified by the royal blue society colors, to a new "green" focus on sustainability. Come and enjoy this insightful look at how an organization makes sweeping changes that redirect its efforts and reinvigorate its members, while providing a new direction for the future.

### About the presenter:

Ron Jarnagin is a long time ASHRAE member who chaired the project committee that developed the first Advanced Energy Design Guide (AEDG) document for small office buildings. Ron is currently the vice chair of the project committee developing the AEDG for small retail buildings. Ron previously chaired ASHRAE Standard 90.1 Committee during the development of the 1999 standard. In addition, Ron has served on the ASHRAE Board as a Director-at-Large and as a Society Vice President.

**Location:** O'Callahan's restaurant, Shilo Inn, 50 Comstock, Richland, Washington 99352

**Date and Time:** December 12, 2006 6:00 pm Social; 6:30 pm Buffet Dinner to include:

Two Main Entree's (Chef's Choice); Hot Starch (to compliment entrees)  
Fresh Seasonal Sauteed Vegetables; Warm Dinner Rolls w/Butter  
Mixed Salad Greens w/Dressings; Two Cold Salads (Chef's Choice)  
Fresh Fruit and Berries Display; Assorted Desserts; Coffee Service

7:30 pm Meeting/Presentation

**Cost:** \$25.00 per person\* (spouse/domestic partner is free if you attended the ASHRAE November meeting.)

**RSVP:** Lois Payne at (509) 373-2259 or lois.payne@rl.gov before December 8, 2006

\*A reservation made is a reservation paid.

## Program Calendar (2006—2007)

**September 12, 2006:** 25th Anniversary Cruise

**October 10, 2006:** National CAD Standard Basics, Carl Brenneise, P.E.

**November 14, 2006:** Tour of the Electricity Infrastructure Operations Center (EIOC)

**December 12, 2006:** Moving from Blue to Green: ASHRAE's Journey to Sustainability, Ron Jarnagin, PNNL

**January 16, 2007:** Role of Controls for Acceptable IAQ, Kent Peterson, ASHRAE Distinguished Lecturer

**February 23, 2007:** Engineers' Week Banquet

**March 13, 2007:** Green Design and Sustainability—Undefinable Success in a Defined World, E. Mitchell Swann, ASHRAE Distinguished Lecturer

**April 10, 2007:** Boilers, Ray Garner

**April 18, 2007:** Indoor Air Quality, Satellite Broadcast

**May 8, 2007:** Underfloor Cooling Distribution, VEMCO/Liebert

**June 12, 2007:** Golf Tournament for RP Fundraising

## Mid-Columbia ASHRAE Chapter

### 2006-2007 Officers/ BOG

President (509) 375-3710	Bing Liu <a href="mailto:bing.liu@pnl.gov">bing.liu@pnl.gov</a>
President-Elect (509) 373-2259	Lois Payne <a href="mailto:lois_payne@rl.gov">lois_payne@rl.gov</a>
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Treasurer (509) 372-6256	Wei Jiang <a href="mailto:wei.jiang@pnl.gov">wei.jiang@pnl.gov</a>
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### Committee Chairs

Membership (509) 735-1589	Steve Strecker <a href="mailto:sjstrecker@meierinc.com">sjstrecker@meierinc.com</a>
Research Promotion (509) 783-1625	Gil Hibbs <a href="mailto:gilh@scm-ae.com">gilh@scm-ae.com</a>
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*The Mid-Columbia Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers was chartered in 1981 in Richland, Washington. We are part of ASHRAE Region XI and represent ASHRAE members in Eastern Washington State.*

#### Help Sponsor our Website with a Business Card Ad

How would you like to place your business card in front of more than seventy eastern Washington ASHRAE members? For a low \$10 an issue, we can place your business card with company logo in a prominent location in our newsletter.

Interested??? Contact  
Wei Jiang at (509) 372-6256  
[Wei.jiang@pnl.gov](mailto:Wei.jiang@pnl.gov)

### Important Notice About Future Meeting Dates

The dates for the Winter and Annual Meetings in 2007, 2008 and 2009 are:

- 2007, Jan. 27–31 in Dallas, and June 23–27 in Long Beach, Calif.;
- 2008, Jan. 19–23 in New York, and June 21–25 in Salt Lake City, Utah.
- 2009, Jan. 24–28 in Chicago, and June 20–24 in Louisville, KY.

