

# The



# Tumbleweed

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

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

**October 16, 2007**

## **Data Center Design**

*Details on page 3*

## **Low NOx Burners 101 --- The Return of "Captain Combustion"**

On September 11th, the Mid-Columbia Chapter of ASHRAE had its first program meeting for society year 2007-2008. This lunch program meeting was held at the Clarion Hotel in Richland and there were thirteen attendees including ASHRAE members and other interested parties. Don Williams, the "Captain Combustion", with Proctor Sales, gave the audience an informative presentation on Low NOx Burners. This is the second time that Don spoke at the Mid-Columbia Chapter's program meeting. At the last May program meeting, Don gave an presentation on boilers designs, efficiencies, and burner technologies.

Don started his talk with combustion basics and what NOx is, then he discussed how to control

NOx through lowering excess air, fuel-air staging, flue gas recirculation and so on. Ultra low NOx burners are being required in more and more areas across the country to reduce NOx emissions. The ultra low NOx technology was developed to control formation of prompt NOx. Don also gave a detailed introduction on burner design, what affects burner turndown, different burner control systems and comparisons of different low NOx burners. At the end of the presentation, Don discussed that burners need to be applied correctly depending on site requirements and controlled properly to optimize efficiency and meet customers needs.

## **Members Sought for Committee ASHRAE to Provide Design Guidance for Green Health Care Facilities**

ATLANTA – Working to make advanced energy efficiency guidance mainstream, ASHRAE is developing a code-intended baseline sustainability standard for health care facilities.

Proposed Standard 189.2, Design, Construction and Operation of High-Performance Green Health Care Facilities, will prescribe the procedures, methods and documentation requirements related to high performance green health care facilities.

"ASHRAE has long understood the unique qualities that define the health care facility," Rick Hermans, a member of ASHRAE's technical committee related to health care design. "High-performance green design, construction, and operation must recognize those unique qualities in order to be effective in the context of the health care environment. This standard will carefully comply with the requirements of health care givers while implementing the necessities of sustainability."

It will apply to patient care areas and related support areas, including hospitals, nursing facilities and outpatient facilities. The standard will also apply to new buildings, additions to existing buildings and alterations to existing buildings.

ASHRAE currently is seeking members to form a committee to write the standard. In addition, public comment is being sought until Sept. 3 on the proposed title, purpose and scope of the standard. For more information, visit [www.ashrae.org/publicreviews](http://www.ashrae.org/publicreviews), and look for the standards action notice dated July 20.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

### **Inside this issue:**

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



## Message from the President

By Lois Payne

We had a good turnout at our first meeting in the Clarion Provo Conference room on September 11th. Mr. Don Williams's presentation on Burner & Boiler Combustion provided a refresher on combustion basics including a complete discussion on low NOx burner technology. It was extremely enlightening to all who attended and we are so grateful to him for sharing his knowledge with us.

Jay Ashbaugh, Chapter Technology Transfer Chair, has been busy setting up the technical programs for the upcoming year and is doing a wonderful job. Rich Evans, Chapter Historian, has recently found our history files and will be developing our Chapter History to add to our website. We plan to nominate Wei Jiang, Chapter Secretary, as an ASHRAE New Faces of Engineering program, with the help of Bing Lui, Past President. More information about this program is in the September issue of ASHRAE Insights magazine. We are looking for someone to volunteer to be our Membership Committee Chairperson; let me know if you are interested.

Speaking of membership, I would like you to take a moment to consider the Mid-Columbia Chapter. You may not realize that ASHRAE is a volunteer organization or that the Mid-Columbia Chapter is one of the "pee-wee" Chapters in Re-

gion XI. One of our Chapter goals is to increase attendance at our meetings and to increase our membership by adding more of the best and brightest HVAC Industrial experts in this regional area into our professional organization. My challenge to you is to help increase our membership from 70 to 100.

When I reviewed our membership roster, it looked like we already have a good start and it is likely many of you helped build the Mid-Columbia Chapter to what it is today. I'm sure there must be a young engineer you know, perhaps working for you, who would benefit from technical program meetings and increased involvement in ASHRAE. Please ask them if they would like to join us at our next meeting. Perhaps you aren't sure if you want to attend because you are a little shy, but I assure you, we are a friendly group and planning to have lots of fun this year! Perhaps you are thinking you would like the opportunity to give back to ASHRAE what you have gained by receiving the Handbooks and Journals; if so, then we have something in common. I can assure you, there is something for all of us; I encourage you to come to our meetings, bring a friend or co-worker, participate and learn with us and help us meet our goal.

## ASHRAE Notes HVAC&R Industry's Role in Montreal Protocol Successes

ATLANTA (9/20/07) – As this week marks the 20th anniversary of the creation of the Montreal Protocol, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) celebrates the efforts of the heating, ventilating, air conditioning and refrigeration (HVAC&R) industries that have played a role in reducing ozone depletion.

The Montreal Protocol on Substances that Deplete the Ozone Layer is an international treaty designed to protect the ozone layer by phasing out the production of a number of substances believed to be responsible for ozone depletion.

"ASHRAE has played a substantial role in stopping further ozone depletion by helping the industry to transition away from ozone-depleting refrigerants," Kent Peterson, ASHRAE president, said. "The Montreal Protocol has shown that when we do what is right for mankind, our initial burden can turn to benefit. Not only has the Montreal Protocol improved the ozone layer, but it also initiated vast technological improvements in air conditioning equipment."

ASHRAE has continuously developed ANSI/ASHRAE Standard 15-2004, Safety Standard for Refrigeration Systems, and ANSI/ASHRAE Standard 34-2007, Designation and Safety Classification of Refrigerants as new refrigerants that are better for the ozone have been developed. In particular, ASHRAE has traced the development of HCFCs to replace CFCs, and then HFCs to replace

HCFCs as technology improved. Now, there is a movement to use "natural" refrigerants such as carbon dioxide, ammonia, and hydrocarbons such as propane and butane.

ASHRAE-funded research projects have also contributed to the successes of the Montreal Protocol. Research has included projects concerning ozone destruction, properties of refrigerants, and evaluation of CFC-alternative refrigerants.

Since the Montreal Protocol, ASHRAE has written and updated its Position Document on Ozone-Depleting Substances, and the Society is currently writing a position document on natural refrigerants.

Since the energy crisis of the 1970s in particular, ASHRAE has been a leader in energy efficiency. Work has included collaborations with the Clinton Climate Design Guide series and the ASHRAE GreenGuide, and making ASHRAE's flagship energy standard that is adopted into building codes, ANSI/ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, increasingly more energy efficient.



## This Month's Event

Tuesday, October 16, 2007

### Data Center Design

**Speaker:** David Toralez

#### Description:

Heat loads in Data Centers have been increasing over the last few years, and that trend is expected to continue, and most likely to escalate.

This concept will be examined from the perspective of effective cooling limits of traditional solutions, including traditional design precision air conditioning units, raised floor/perforated floor tiles and aisle configurations. We will review various metrics and roadmaps including Best Practice.

The solution for the above conditions is a new paradigm for cooling solutions for high-density data center applications utilizing new cooling architectures.

#### About David Toralez:

David Toralez is the West Region Sales Manager for Liebert Corporation. David handles the western United States, including Alaska and Hawaii and the western provinces of Canada. David has over 20 years in the HVAC and Energy Industry with various positions. David received his BS in Engineering from California Polytechnic State University – San Luis Obispo and his MBA in International Management and Marketing from University of La Verne. David lives and works in southern California.

**Location:** Clarion Inn, Richland  
1515 George Washington Way

**When:** 12:00 noon

**Cost:** \$20.00 Lunch and Program

**RSVP:** Jay Ashbaugh at (509) 735-1589  
[jpashbaugh@meierinc.com](mailto:jpashbaugh@meierinc.com)

Please RSVP by October 12, 2007 if you plan to attend.

#### Program Calendar (2007–2008)

**September 11, 2007:** *Low NOx Burners 101, Don Williams*

**October 16, 2007:** *Data Center Design, David Toralez*

**November 13, 2007:** *TBD, Greg Jordan*

**December 11, 2007:** *Containments IAQ, Bert Phillips, ASHRAE DL*

**January 15, 2008:** *TBD*

**February 22, 2008:** *Engineers Week Banquet*

**March 9, 2008:** *TBD, Kent Peterson, ASHRAE President*

**April 15, 2008:** *TBD*

**May 13, 2008:** *TBD*

**June ??, 2008:** *Mid-Columbia ASHRAE Golf Tournament to benefit ASHRAE Research.*

## Mid-Columbia ASHRAE Chapter

2007-2008 Officers/ BOG

President (509) 438-9561	Lois Payne <a href="mailto:lois_payne@rl.gov">lois_payne@rl.gov</a>
President-Elect (509) 735-1589	Jay Ashbaugh <a href="mailto:jpashbaugh@meierinc.com">jpashbaugh@meierinc.com</a>
Secretary (509) 372-6256	Wei Jiang <a href="mailto:wei.jiang@pnl.gov">wei.jiang@pnl.gov</a>
Treasurer (509) 377-8713	Mark Simon <a href="mailto:msimon@energy-northwest.com">msimon@energy-northwest.com</a>
BOG Member at Large (509) 308-8331	Gil Hibbs <a href="mailto:ghibbs@clearwire.net">ghibbs@clearwire.net</a>
BOG Member at Large (509) 735-1589	Dale Green <a href="mailto:degreen@meierinc.com">degreen@meierinc.com</a>
BOG Member at Large (509) 375-3710	Bing Liu <a href="mailto:bing.liu@pnl.gov">bing.liu@pnl.gov</a>
Committee Chairs Membership	TBD
Research Promotion (509) 308-8331	Gil Hibbs <a href="mailto:ghibbs@clearwire.net">ghibbs@clearwire.net</a>
CTTC (509) 735-1589	Jay Ashbaugh <a href="mailto:jpashbaugh@meierinc.com">jpashbaugh@meierinc.com</a>
Honors & Awards (509) 438-9561	Lois Payne <a href="mailto:lois_payne@rl.gov">lois_payne@rl.gov</a>
Newsletter (509) 735-1589	Dale Green <a href="mailto:degreen@meierinc.com">degreen@meierinc.com</a>
Historian (509) 375-1020	Rich Evans <a href="mailto:richevans1@iuno.com">richevans1@iuno.com</a>
Web Page (509) 372-6256	Wei Jiang <a href="mailto:wei.jiang@pnl.gov">wei.jiang@pnl.gov</a>



*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  
Mark Simon at (509) 377-6256  
[msimon@energy-northwest.com](mailto:msimon@energy-northwest.com)

### Important Notice About Future Meeting Dates

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

- **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.

# ASHRAE LEARNING INSTITUTE

## FALL ONLINE COURSES

**Take Two Courses and Save 15% OFF Registration**

Live courses from industry experts, in the comfort of your own office!

### Complying with ANSI/ASHRAE/IESNA Standard 90.1-2004 HVAC/Mechanical

Wed, September 26, 2007 – 1:00 p.m. to 4:00 p.m. to 4:00 p.m.

Mon, October 22, 2007 – 1:00 p.m. to 4:00 p.m.

Instructor: Mack Wallace, P.E.

### Levels

### Humidity Control I – Basic Principles, Loads and Equipment

Mon, October 15, 2007 – 1:00 p.m. to 4:00 p.m.

Instructor: Lew Harriman, P.E.

### Complying with Requirements of Standard 62.1-200 Dedicated Outdoor

Wed, October 24, 2007 – 1:00 p.m. to 4:00 p.m.

Mon, November 19, 2007 – 1:00 p.m. to 4:00 p.m. p.m.

Instructor: Hoy Bohanon, P.E.



Earn 3 PDHs/.3

### Natural Ventilation

Thurs, October 4, 2007 – 1:00 p.m.

Instructor: Frank Mills, P.E.

### Humidity Control II – Applications, Control and Mold Avoidance

Wed, October 17, 2007 – 1:00 p.m. to 4:00 p.m.

Instructor: Lew Harriman, P.E.

### Understanding & Designing

### Air Systems

Wed, October 31, 2007 – 1:00 p.m. to 4:00

Instructor: Stanley Mumma, Ph.D., P.E.

### Register Now!

\$150 ASHRAE Member / \$225 Non-member

Site licenses are available! Contact [edu@ashrae.org](mailto:edu@ashrae.org)

### 2 Ways to Register

Internet: [www.ashrae.org/onlinecourses](http://www.ashrae.org/onlinecourses)

Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (Worldwide)

## ASHRAE Publications

**New Editions!**

### ASHRAE STANDARDS:

#### Standard 52.2-2007

Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size (ANSI Approved)

Product Code: 86143

Price: \$39 / ASHRAE Member Price: \$32

#### Standard 62.1-2007

Ventilation for Acceptable Indoor Air Quality (ANSI Approved)

Product Code: 86155

Price: \$65 / ASHRAE Member Price: \$52

#### Standard 62.2-2007

Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings (ANSI Approved)

Product Code: 86158

Price: \$39 / ASHRAE Member Price: \$32

#### Standard 90.2-2007

Energy Efficient Design of Low-Rise Residential Buildings (ANSI Approved)

Product Code: 86239

Price: \$95 / ASHRAE Member Price: \$76



*The 12 Most Referenced Standards & Guidelines on One CD*

### DESIGN ESSENTIALS:

#### ASHRAE's Most Referenced Standards and Guidelines on CD

You can easily print, search, and copy and paste text or graphics from the CD for Standards 15, 34, 52.2, 55, 62.1, 62.2, 90.1 (I-P), 90.2, and 135 and Guidelines 0, 1, and 13. Includes one year of unlimited online access to downloadable monthly updates to these standards and guidelines (you will receive a monthly email notification of these updates, with a link to access them.)

Single-user Product Code: 94062

Price: \$499; ASHRAE Member Price: \$429

Stay updated by renewing for a low yearly rate!

Price: \$290; ASHRAE Member Price: \$220

Network version available; please contact ASHRAE Customer Service (orders at [ashrae.org](http://ashrae.org))

Payment in U.S. funds only.

To order, go to [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or call (800) 527-4723 (US/Canada) or (404) 636-8400 (worldwide).