AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org

Mon Feb 24/2014

Topic

Tips, Tricks & Techniques of Commissioning

Speaker

David Underwood, P.Eng
ASHRAE Treasurer
Fellow Life Member

Meeting - Mon Feb 24/2014

BEST WESTERN / LAMPLIGHTER INN
591 Wellington Road
London

5:30pm-Social 6:00pm-Dinner
7:00pm to 8:00pm - Program

ADVANCED PAYMENT BEFORE MEETING
by using PAYPAL
use the chapter web site to register and pay
http://LondonCanada.AshraeChapters.org

$50 Members and Guest (prepaid)
$10 Students (prepaid)

$60 CASH AT DOOR
$15 for Students

Presidents Message

January into February...

Thanks to our members and guests that attended the January meeting. It was our Chapter's first meeting at Ivey Spencer Leadership Centre. The survey responses were positive and it appears this new experience was a success; this venue will be added to the rotation. Thanks are also due to those that completed the survey. Let's see who wins the prize at the February meeting.

February 24's meeting will be held at VENUE. The topic is TOPIC and will be presented by ASHRAE Distinguished Lecturer David Underwood. We are honoured to have David join us and have him share from his wealth of experience and knowledge. Earlier in the day David will also be presenting to Western Engineering students. At 4:30pm, David will be hosting a meeting at the VENUE to discuss ASHRAE nominations. Everyone is welcome so please feel free to join us and come out a little early to the Chapter Meeting. This meeting will also be our Research Promotion night and we will have a short presentation about the benefits of ASHRAE research and a thanks for past and continued support.

The 2014 CRC is months away and planning is in full force. we could still use volunteers, so please contact Karl Gilroy and/or Ibrahim Semhat.

lastly, the 2014 ASHRAE London Golf Day will be Monday June 2, 2014 at Firerock Golf Club. registration opens March 1. If you are interested and have questions, please feel free to send me a note or give me a call.

Thanks for your continued support of ASHRAE and our Chapter.

All the best as the year progressesest.
Jamie Kruspel
Chapter President 2013/2014
ASHRAE London Canada Chapter

Jan Meeting Summary

Phil Boudreau, Ontario Sales Manager , Bitzer Canada, present on Variable Frequency Drive Compression. The techinical items presnted included general capacity control comparisons, advantages and disadvantages of VFD, application of synchronous vs. transynchronous controls, and VFD outlook.

Upcoming Chapter Meetings

Monday Mar 31/2014
Monday Apr 28/2014
Monday Jun 2/2014

Meeting Survey

If you attend the chapter meeting, be sure to complete the meeting survey that is emailed out and you will be entered into a draw for a bottle of wine at the next meeting.

Other Meetings

Mar 19 to 21, 2014 = Canadian Mechanical and Plumbing Exposition (CMPX) - Metro Toronto Convention Centre

Thu April 17/2014 ASHRAE WEBCAST - Buildings in Balance: IEQ and Energy Efficiency
https://www.ashrae.org/membership--conferences/webcasts

June 28 to July 2, 2014 - ASHRAE Annual Conference - Seattle, WA (see ashrae.org)

Speaker Bio

T. David Underwood P.Eng.

T. David Underwood, P.Eng., Fellow Life Member, ASHRAE-Certified Commissioning Process Management Professional, is retired and resides in Oakville, Ontario, Canada.

Mr. Underwood founded Isotherm Engineering Ltd. in 1975. The corporation is still active in the HVAC&R industry. He was a volunteer Board member of ORAC (The Ontario Refrigeration and Air Conditioning Contractors Association) for many years and served in all executive positions.

As a former vice president of ASHRAE, Underwood was a member of the Board of Directors and the Executive committee and served as chair of Publishing and Education Council.

Underwood currently serves as Treasurer of ASHRAE and is on the Board of Directors and the Board Executive Committee.

“Serving on the Board of Directors affords the opportunity to view and review our activities from the perspective of the whole membership,” he said, speaking about the greatest opportunity facing ASHRAE. “With this opportunity comes great responsibility to rationally debate the issues among the Board members to seek the best solutions for our collective membership. The greatest opportunity and possibly the greatest challenge is to engage the grassroots member with the same passion and commitment of the Board for the technical activities of the Society. It is our challenge to excite the whole membership with our commitment to our industry and our future in it.”

Other service includes member of the Toronto Chapter Board of Governors and Honors and Awards Committee and liaison to the Building Energy Quotient Ad Hoc Committee. He formerly served as director-at-large on the Board of Directors; a member of the Planning Committee and Foundation Trustees; and chair of the Commissioning Process Management Professional certification subcommittee. He currently serves on the Conferences and Expositions Committee (CEC) as well as the Research Promotion Committee (RP).

He has received the Exceptional Service Award and the William J. Collins, Jr. Research Promotion Award.

He was awarded a Bachelor of Science in civil engineering from the University of Manitoba in 1964.

Topic

Tips, Tricks & Techniques of Commissioning

Items to be discussed include:
How to Approach Commissioning?
What Is Commmissioning?
Why commission a project?
What is the outcome of commissioning?
Who is the appropriate commissioning authority?
What are essential documents for getting started?
What is the value for Owners?
What should an Owner do?
Who benefits from the commissioning process?
What is new in the commissioning process?

Research

Please be sure to forward your personal or company donation to ASHRAE RESEACH CANADA. These funds are distributed by ASHRAE Society to create the handbook and standards that all hvac designers, engineerings and contractors use every day.

Thank you for your donation

ASHRAE TRAINING

Visit the HVAC Design Training webpage at: www.ashrae.org/hvacdesign for more details on the value of this training.

HVAC Design: Level I–Essentials at CMPX 2014

In conjunction with the 2014 CMPX Show, ASHRAE is offering the HVAC Design: Level I – Essentials training to provide intensive, practical training for HVAC designers and others involved in the delivery of HVAC services. Developed by industry-leading professionals, this training provides the fundamental and technical aspects of HVAC design in commercial buildings.

In three days, gain practical skills and knowledge in designing, installing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection.

Training Topics:

- Fundamentals
- System selections
- Cooling system
- Basic design of air systems
- Sustainable design
- Introduction to technical sales
- Heating/cooling load calculation
- Common system and components
- Basic design of hydronic systems
- Control/BAS commissioning
- Project management and other soft skills

When: March 17–19, 2014
Where: Metro Toronto Covention Centre, Toronto, Canada
Cost: $1,239 (ASHRAE Member: $898)
Company Discount: Enroll 3 or more participants from the same company at the same time and save.

BONUS! Get a FREE copy of Standard 189.1-2011 and User's Manual A $200 value.

ASHRAE WEBCAST - APRIL 17, 2014

Don't miss out on the newest installment of ASHRAE's FREE Webcast series — "Buildings in Balance: IEQ and Energy Efficiency." The upcoming webcast will broadcast live on April 17, 2014.

This webcast will feature industry experts who will identify the link between energy efficiency and Indoor Environmental Quality (IEQ) through the integrated design process. Viewers will be able to recognize the importance of the four cornerstones of IEQ and how system selection can benefit both energy efficiency and IEQ.

Registration for the 2014 Webcast will begin on March 17, 2014 at
www.ashrae.org/ieqwebcast
There is no fee for registration.

ASHRAE, founded in 1894, is a building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.

ASHRAE/IES Energy Standard Gains 30 Percent Savings over 2004 Standard

ATLANTA – The requirements of the 2013 revision of an energy standard recently published by ASHRAE and IES will result in buildings that could achieve six to eight percent more efficiency than buildings built to the 2010 standard.

Published in October 2013, ANSI/ASHRAE/IES Standard 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings, provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings.

Pacific Northwest National Laboratories (PNNL), in support of the Department of Energy's Building Energy Codes Program, conducted the energy savings analysis on 110 addenda included in the standard.

PNNL's analysis shows that the site and energy cost savings are 37.7 percent and 37.8 percent, respectively, by using the 2004 standard as baseline for the regulated loads only. For the whole building energy consumptions, national aggregated site energy savings are 29.5 percent and energy cost savings are 29.0 percent.

On a nationally aggregated level, building-type energy savings range from 19.3 percent to 51.9 percent and energy-cost savings from 18.6 to 50.6 percent. These figures include energy use and cost from the whole building energy consumptions including plug and process loads.

"ASHRAE is committed to continually improving building energy performance, so we are pleased with this confirmation that the 2013 standard achieves significant energy savings over its predecessor," William Bahnfleth, ASHRAE president, said. "As we approach the 40th anniversary of the publication of the standard, these new savings underscore Standard 90.1's key role in promoting energy efficiency in buildings in the United States by establishing successively more stringent – but cost effective – minimum requirements and we look forward to further advances in future revisions."

"The Illuminating Engineering Society of North America (IES) has provided technical support on lighting related requirements in each iteration of the standard since 1975," Rita Harrold, director of technology, said. "IES continued that role in developing the energy efficiency provisions in the 2013 standard through modified LPDs and additional daylighting and controls strategies. The challenge to achieve higher energy efficiencies increases with each version of the standard and begins anew as we address targets for the 2016 edition."

Extensive analysis work was performed by a team from Pacific Northwest National Laboratories. Sixteen different building prototypes were modeled in 17 different climate locations for a total of 272 building types and climate zone combinations

The energy reduction was achieved through 33 addenda related to major changes to requirements regarding building envelope, lighting, mechanical and the energy cost budget. The most significant changes are:

* Building Envelope. Opaque elements and fenestration requirements have been revised to increase stringency while maintaining a reasonable level of cost-effectiveness. Opaque and fenestration assemblies in Tables 5.5-1 through 5.5-8 are revised in most climates. These changes include:
Criteria requiring double glazed fenestration in many climates
Minimum visible transmittance/solar heat gain coefficient (VT/SHGC) ratio to enable good daylighting with minimum solar gain, while not restricting triple- and quadruple-glazing.
Simplification of the skylighting criteria.

* Lighting: These changes include improvements to daylighting and daylighting controls, space-by-space lighting power density limits, thresholds for toplighting and revised controls requirements and format.

* Mechanical: Equipment efficiencies are increased for heat pumps, packaged terminal air conditioners, single package vertical heat pumps, air conditioners and evaporative condensers. Also, fan efficiency requirements are introduced for the first time. Additional provisions address commercial refrigeration equipment, improved controls on heat rejection and boiler equipment, requirements for expanded use of energy recovery, small motor efficiencies and fan power control and credits. Control revision requirements have been added to the standard such as direct digital controls in many applications.

Another important change for the 2013 standard is the first alternate compliance path in Chapter 6. Section 6.6 was added to the 2010 edition to provide a location for alternate methods of compliance with the standard. The first such alternate path has been developed for computer room systems and was formulated with the assistance of ASHRAE technical committee 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment. This path uses the Power Usage Effectiveness (PUE) metric established by the datacom industry. This alternate efficiency path format provides a framework that could be considered for other energy using facets of buildings not easily covered in the prescriptive provisions of the standard.

The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations.

New ASHRAE, Green Grid Publication Provides Background on Data Center Metrics

ATLANTA— Power usage effectiveness (PUE™) has become the industry-preferred and globally adopted metric for measuring the energy efficiency of data centers. In response to this demand, ASHRAE and The Green Grid have published “PUE™: A Comprehensive Examination of the Metric.”

This is the 11th book in the Datacom Series of publications from ASHRAE Technical Committee (TC) 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment. ASHRAE TC 9.9 collaborated with The Green Grid on the book.

“Our primary goal is to provide the data center industry with unbiased, vendor neutral data in an understandable and actionable way and this latest publication on the PUE metric does exactly that,” Don Beaty, publication subcommittee chair of TC 9.9, said. “We want to ensure that data center designers, owners and operators have access to information that enables them to make informed and educated decisions based on their business needs and value systems.”

For this book, all previously published material related to PUE was consolidated and augmented with new material. The content includes detailed information on procedures for calculating, reporting and analyzing PUE measurements, plus quick references to other resources in print and online. The intention is that a broad audience—from those implementing and reporting data center metrics seeking in-depth application knowledge and resources to executives hoping to gain a higher level of understanding of the concepts surrounding PUE—can easily grasp the guidance offered.

"Data centers are complex systems for which power and cooling remain key issues facing IT organizations today,” John Tuccillo, chairman of the board for The Green Grid Association, said. “The Green Grid Association's PUE metric has been instrumental in helping data center owners and operators better understand and improve the energy efficiency of their existing data centers, as well as helping them make better decisions on new data center deployments.”

PUE was first defined by The Green Grid, a non-profit, open industry consortium of end users, policy makers, technology providers, facility architects and utility companies working to improve the resource efficiency of information technology and data centers throughout the world.

The cost of “PUE: A Comprehensive Examination of the Metric” is $59 ($50 ASHRAE members). To order, contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 678-539-2129, http://www.techstreet.com/ashrae/products/1869497

Proposed Addendum to Green Standard Seeks to Ensure Sustainability Through Biodiversity

ATLANTA – Ensuring sustainability of ecosystems through protection of plants, soil and water and increased habitat for native birds and insects is the goal of proposed requirements to the green building standard from ASHRAE, the U.S. Green Building Council (USGBC) and the Illuminating Engineering Society (IES). ANSI/ASHRAE/USGBC/IES Standard 189.1-2011, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, covers key topical areas of site sustainability, water-use efficiency, energy efficiency, indoor environmental quality and the building’s impact on the atmosphere, materials and resources. Proposed addendum bg revises the Native Plant definition, clarifies the Plants section by renaming it Landscape Design, and requires a minimum area of the landscape to be native plants. Overall addendum bg is a clean up to the existing section, according to Floyd. Addendum bg is open for public comment, along with four other addenda, until March 9, 2014. To comment or learn more, visit www.ashrae.org/publicreviews.

The other addenda open for review are:

Addendum al, which will match requirements for opaque wall assemblies in Climate Zones 1 through 3 to ANSI/ASHRAE/IES 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings.

Addendum w, which provides bicycle parking design requirements.

Addendum bk , which adds a fan-efficiency requirement that is slightly more stringent than the fan-efficiency section in ANSI/ASHRAE/IES 90.1-2013, Energy Standard for Buildings Except Low-Rise Residential Buildings.

Addendum bm, which adds more building components and clarifies salvaged material requirements in Section 9.4.1.1 Recycled Content.