ASHRAE Mississippi Valley Chapter

Celebrating 40 years of service

ASHRAE REGION VI

2015 CHAPTER REGIONAL CONFERENCE

"TOTAL SYSTEM EFFICIENCY - SUPPLY AND DEMAND ECONOMY"

April 30-May 2, 2015

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Bettendorf, Iowa

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HOSTS & COMMITTEES

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Mississippi Valley Chapter of ASHRAE

Director Regional Chair: Mark F. Miller

Mississippi Valley
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HOST COMMITTEE MEMBERS

John Schaub .....Chair, Promotion \ Website

Sherm Sweeney.....Vice-Chair

Jon Bovenkamp.....Recording Secretary

Luis Gaeta.....Facilities\Arrangements

Bruce Davis.....Technical Sessions

Brian Hodgin.....Technical Sessions

Cris Washburn.....Registration

Matt Bladel.....Attendance

Pat Igou.....Finances

Jake Vorac.....Sponsorships

Justin Clegg.....Transportation

Jerry Brown.....Reception / Hospitality

Julie Sweeney.....Companion Activities

Catherine Schaub.....Companion Activities

Jeanne Hodgin.....Companion Activities

TECHNICAL SESSIONS

Total System Efficiency-Supply & Demand Economy

TECHNICAL SESSION #1 - TRACK 1 AND 2

Lead-off Speaker, *Julian R. de Bullet (DL)*

Sustainability – Walk through History

- Brief review of past 35-40 years of HVAC system design and/or operational issues

Demand Side

- 70's Energy Crisis
- IAQ Issues
- ASHRAE leads with new Standards for IAQ and Increased Energy Efficiency
- Global Warming Issues
- LEED certification
- Thermal Storage and off-peak storage

Supply Side

- 70's Energy Crisis
- Energy Mandates in form of EPA Regulations
- Global Warming Issues
- Carbon Emissions
- Mercury & Air Toxicity Standards
- Coal Conversion projects
- Clean Energy Production

Challenge the next generation to continue down the path of Total Sustainability on both DEMAND & SUPPLY side economies

TECHNICAL SESSION #2A - TRACK 1

Supply Side Energy Production, *Jennifer McIvor, MidAmerican Energy*

Environmental Regulations in Power Generation

Carbon Constrained Future

EPA guidelines – Performance Standards

- Greenhouse Gas Emissions
- Emission Standards for CO2
- Coal Ash Rules
- Mercury & Air Toxicity
- Clean Air Act
- Coal Conversion Projects

TECHNICAL SESSIONS

TECHNICAL SESSION #2B - TRACK 2

Demand Side Energy Consumption, *Jeff Boldt, KJWW Engineering Consultants*

- Standard 90.1-2010 vs 2013.
- Energy Consumption - Buildings
- Enhanced Energy Reduction
- Energy Design Guides
- Possible Net Zero Buildings

TECHNICAL SESSION #3A - TRACK 1

Wind Energy in Iowa, *Adam Wright, MidAmerican Energy*

Economies of Wind Energy

- Time Lapse Wind Farm Construction
- Infrastructure required to support Wind
- History of Wind Generation projects 2004-2015
- Financial Summary (MAE)
    - Federal Production Credits
    - Berkshire Hathaway Energy
    - 3,500 MW Wind Production total
    - No production cost passed onto customers

TECHNICAL SESSION #3B - TRACK 2

Energy Modeling vs Verification, *Julia Gauthier and Ryan Schwartz, Weidt Group*

- MidAmerican Energy Track 5, 2 yrs post construction
- Actual energy use / energy model calc
- Operational issues – building usage
- Additional incentives – enhanced savings
- Equipment usage vs consumption
- Ongoing building performance
- Update energy models to current conditions
- Where do we go from here w/ energy usage?

TECHNICAL SESSIONS

TECHNICAL SESSION #4 - TRACK 1 AND 2

Bridging the Gap, *Tom Watson, Past President, ASHRAE*

- After a complete summary of the past 35-40 years in HVAC
- Where have we been?
- Where are we going?
- Can the entire industry be Sustainable both on the DEMAND & SUPPLY side?
- ASHRAE continues to lead with new and better standards throughout the industry
- Can the next generation carry the torch forward to move us into total sustainability?

BIOGRAPHIES

JULIAN R. DE BULLET

Julian R. de Bullet has over 40 years experience in the HVAC industry. He is President of de Bullet Consulting. His career has concentrated on the applications of Chilled Water and All-Air systems as a manager of applied equipment sales and a service/performance contracting operation. Recently he was Vice President, Business Development of FAFCO Thermal Storage Systems, a manufacturer of ice storage systems. Prior, he was Director of Industry Relations for a major HVAC manufacturer.

As ASHRAE Vice President (2001/2003), he served on the Board of Directors and the Executive Committee and was Chair of Member Council and Publishing Council. He is Past President of the National Chapter and was Director and Regional Chair for ASHRAE Region III. He is an ASHRAE Distinguished Lecturer with over 350 Seminars delivered around the world with topics including “Responsible Refrigerant Use,” “Sustainable HVAC Systems,” “Variable Primary Flow System Designs,” and “90.1 and LEED.” He is a member of ASHRAE TC 8.2 Centrifugal Chillers and has co-authored numerous ASHRAE Handbook chapters. He chaired the Professional Development Committee, (Responsible for the ASHRAE Educational programs), was a voting member of the Publications and Education Council and the Society Advocacy Committee. He has co-authored ASHRAE Position Documents on Energy Efficiency, Natural Refrigerants and Ozone Depletion. He is a Life Member and holds the Distinguished and Exceptional Service Award.

Julian presently serves on both the Honors and Awards Committee and the Nominating Committee. He is a graduate of the London University system in England, where he obtained an electrical engineering degree and a diploma in marketing.

BIOGRAPHIES

JENNIFER MCIVOR

Jennifer McIvor is vice president of environmental programs, compliance and permitting at MidAmerican Energy Company. Jennifer is responsible for managing the company's environmental programs to ensure MidAmerican Energy and its facilities obtain the appropriate permits and remain in compliance with permit conditions and the associated regulatory requirements. Jennifer also is responsible for integrating environmental assessments of existing and anticipated environmental regulations into planning and operating decisions of the company's business units, advising management of the impact of proposed regulations and developing compliance strategies. Jennifer holds a master of environmental management degree from the Yale School of Forestry and Environmental Studies, a law degree from Vermont Law School, and a bachelor's degree in environmental studies from the Wilkes Honors College of Florida Atlantic University.

JEFF BOLDT, PE, LEED® AP, HBDP

Jeff Boldt is a Principal and the Director Engineering at KJWW Engineering, a 500 person firm. He is a licensed Professional Engineer with over 30 years' experience in mechanical, fire protection, and acoustical design. Jeff is a voting member of ASHRAE's 90.1 Energy Standard and chairs the working groups dealing with Advanced Energy Systems, Healthcare, Hydronics, Elevators/escalators, and Duct System Leakage. Jeff is also a voting member of ASHRAE 189.1 Standard for the Design of High Performance Green Buildings and chairs the acoustics subcommittee. Jeff is an author of the Advanced Energy Design Guide (AEDG) for Large Hospitals and of the AEDG for Small Healthcare Facilities. He has served as Project Manager and Design Engineer on many award-winning projects; including the Agronomy Laboratory, which won the ASHRAE International Technology Award for the best HVAC design of the year. Jeff is a LEED accredited professional and received High-performance Building Design Professional accreditation. He is registered in both mechanical and fire protection engineering. Jeff is a member of ASHE, ICC, SFPE, WHEA, the WHEA Code Committee, the Wisconsin Energy Conservation Code Council, and the Wisconsin Mechanical Code Council. Jeff is a consultant to ASHRAE Standard 62.1 – Ventilation for Acceptable Indoor Air Quality; and a frequent commenter on Standard 170 - Ventilation of Healthcare Facilities. Since 2012 Jeff has had articles published in the ASHRAE Journal, CSE Magazine, and in Engineered Systems.

JULIA GAUTHIER, LEED® AP BD+C

Julia Gauthier is a Program Manager at The Weidt Group, managing the implementation of the firm's Design Assistance services for key clients in the area of high performance buildings and sustainable design. She has over 19 years of experience in implementing energy conservation and renewable energy programs. Julia's speaking engagements have included audiences of AIA Iowa, the USGBC-Iowa Chapter, the European Council for an Energy Efficient Economy, the Iowa Utility Board/Office of Consumer Advocate, the Iowa Association for Energy Efficiency, and the Design-Build Institute of America, Iowa Chapter. Julia holds an MBA and a Bachelor's degree in Marketing from St. Cloud State University in Minnesota. She is also a LEED Accredited Professional.

BIOGRAPHIES

ADAM WRIGHT

Adam Wright began his employment with Berkshire Hathaway Energy in 1996. In 2003, Adam joined Northern Natural Gas, a subsidiary of Berkshire Hathaway Energy. From 2003 to 2009, Adam served in various management roles within Northern Natural Gas' operations group and was responsible for the development of the company's integrity management program for high-consequence areas and the completion of the Northern Lights expansion project. From 2010 to 2011, Adam served as vice president of marketing, managing negotiation and execution of long-term service agreements and general customer satisfaction initiatives. In 2012, Adam moved to Des Moines, IA, to lead MidAmerican Energy Company's wind department and currently serves as vice president of wind generation & development. Adam earned a bachelor's degree in civil engineering from the University of Nebraska at Omaha. He is a board member of the John R. Grubb YMCA and serves in various capacities within his local church. Adam is a Nebraska native, is married and has two children.

RYAN SCHWARTZ, EIT, LEED® GREEN ASSOCIATE

Ryan Schwartz, an Energy Analyst with The Weidt Group, is an Engineer-in-Training with seven years of experience conducting Measurement & Verification (M&V) work and five years of experience conducting building energy simulations for new construction and renovation/addition projects. Since joining the firm in 2007, his work has focused on conducting site verification work and monitoring of buildings after they are built to measure building performance and give feedback to owners and design teams about building operations. Ryan also consults with design teams on the design and implementation of energy monitoring systems and energy conservation measures. In addition, he has led ongoing M&V efforts for projects pursuing the LEED® Measurement and Verification credit. Overall, his experience includes more than 13.7 million square feet of new and renovated construction. Ryan received a Bachelor of Science in Mechanical Engineering from Iowa State University and he is an Associate Member of ASHRAE.

THOMAS E. WATSON, P.E.

Fellow Life Member, 2012-13 President, ASHRAE
Tom Watson, P.E., Fellow Life Member, is chief engineer, Daikin McQuay, Staunton, Va. He oversees new product development for centrifugal compressor technology and is primarily involved in technical areas related to refrigerant applications, aerodynamics, bearing design and motor applications. He holds five patents related to refrigerant, gas and chiller compressors. *(continued on next page)*

BIOGRAPHIES

As ASHRAE's president, Tom directed the Society's Board of Directors and oversaw the Executive Committee. His presidential theme was Broadening ASHRAE's Horizons, which emphasized the role of ASHRAE members as leaders in the application of sustainable design and practices in our communities worldwide. Tom became involved in ASHRAE in 1972 and became a member of Technical Committee 8.2, Centrifugal Machines, soon thereafter. He served as member of the Standard 34, Designation and Safety Classification of Refrigerants, committee in the early 1990s and also served as chair of the Standard 15 committee, Safety Standard for Refrigeration Systems.

While remaining active in ASHRAE's standards activities, especially internationally, Tom also has held several positions on the Society's Board of Directors. He is past Society president-elect, treasurer, vice president and a director-at-large. Most recently, he served as chair of the committee that oversaw the Society's rebranding, rolled out in January 2012. His past service includes chair, Members Council and Technology Council, President-Elect Advisory Committee, the Strategies for a Global Environment Ad Hoc Committee and the Advocacy Committee; and vice chair of the Vision 2020 Ad Hoc Committee. He also served as a member of the Advanced Energy Design Guide Steering Committee. He has received the Standards Achievement Award and an Exceptional Service Award. Tom was awarded a Bachelor of Science in mechanical engineering from Virginia Tech in 1966 and a Master of Science in mechanical engineering from West Virginia University in 1969.

W. STEPHEN COMSTOCK

Since 1974, Steve Comstock has been a member of the ASHRAE staff, holding various positions in the communications and publishing fields. He was named ASHRAE's publisher in 1995. Steve is responsible for all of ASHRAE's publishing activities, including ASHRAE Journal, the ASHRAE Handbook, HVAC&R Research and ASHRAE's book publishing efforts. ASHRAE publishes more than 8,000 pages of technical content each year in a multitude of formats and through varied delivery vehicles. The recipient of numerous awards for its books and website, including recognition by the International Academy of Digital Arts and Sciences, the Public Relations Society of America and the American Society of Business Press Editors, ASHRAE is a recognized leader among engineering and scientific societies for its publishing and electronic communication activities.

Steve also heads the ASHRAE Learning Institute, a collection of course offerings that educates some 5,000 professionals annually, and directs the ASHRAE website, an information resource that receives some 11 million page views annually. Among the accomplishments Steve has overseen are launch of ASHRAE's Web-based eLearning initiative and publication of High Performing Buildings, a magazine showcasing buildings for their sustainable and indoor environmental quality characteristics.

Steve is a former journalist for the Bergen News outside New York City and has been active for many years in the Council of Engineering and Scientific Society Executives. He holds a Bachelor of Arts in history from Lehigh University.

BIOGRAPHIES

JIM VALLORT

Jim Vallort is the Practice leader for Energy + ECO, Controls and Commissioning at Environmental Systems Design Inc (ESD) located in Chicago Illinois. As a practice leader, Jim coordinates the day to day activities of over 25 engineers and provides thought leadership across the 250+ engineer firm. ESD is a full service MEPFP&T engineering firm with a headquarters in Chicago IL with over 40 years of experience. Jim has served as designer, project manager, Cx authority and program manager for all types of projects ranging from BSL4 lab spaces to LEED Platinum refrigerated warehouses to data centers to high performance buildings across the US. He holds a B.S. in Mechanical Engineering from Bradley University, Peoria, IL

Jim is currently incoming ASHRAE Vice-President. Jim began his participation in ASHRAE in 1990, primarily at the local grass roots level. He has passed through the chairs at the chapter level and served as chapter president of the Illinois Chapter in 1998. At the Chapter level Jim has been very involved with the Winter Meeting Host Committee having served as General Chair in 1998 and has been a member of every Host Committee since 1993. Jim then moved into the Regional area of ASHRAE serving as the DRC for Region VI and then as a DAL having the unique perspective of both a DAL & DRC on the BOD.

Other committees he has served on include: Standards, Tech Council, Members Council, Pub & Ed Council, Journal Insights, Meetings Arrangements, Program Committee (Chair), Host Committee (General Chair), Planning Committee, CIBSE/ASHRAE Joint Conference, Ad Hoc on Society Meeting Format (96'), Standards Advisory Committee, Mbr. Council Ad Hoc on Young Engineers, and PEAC. As a member of the ad hoc on Young Engineers he established the foundation for YEA. Jim has been an EXO to Membership Promotion, Meetings Arrangements, Historical and Professional Develop. The first TC Jim was involved with was TC9.1 and currently is active in TC 7.9 and SPC 211. He received an Excellence in Engineering Award in 1998, Distinguished Service Award in 2001, Exceptional Service Award in 2013 and the ASHRAE Fellow in 2014.

Jim has been a member at various times of: RETA, AEE, USGBC, IARW, and ASHE. Most time and energy for professional activities goes into ASHRAE and volunteering for my kid's school and extracurricular activities.

BIOGRAPHIES

TIM WENTZ

Tim Wentz is an Associate Professor of Construction Management at the University of Nebraska – Lincoln, where he teaches a wide spectrum of courses, including environmental systems, mechanical estimating, mechanical project management, professional practice/ethics and the senior capstone course. Tim's professional focus is in teaching and undergraduate education, where he has participated in numerous committees and initiatives. He currently serves as an advanced team leader for the Peer Review of Teaching program, a College representative on the Student Success task force and is also currently chair of the College of Engineering Curriculum and Academic Standards Committee.

Tim holds a Bachelor of Science in Mechanical Engineering from University of Nebraska – Lincoln, and a Masters of Business Administration from University of Nebraska – Lincoln.

Tim is the Treasurer-elect of ASHRAE and has served the Society in many different capacities. He started his ASHRAE career in 1976 after graduating from the University of Nebraska and worked in a grassroots capacity for many years. He is a past president of the Nebraska Chapter, past RVC of Student Activities for Region IX and the past DRC of Region IX. Tim currently serves on the Finance Committee, chair of the Investment Subcommittee, Building Energy Quotient (bEQ) Committee, Planning Committee, Joint Exposition Policy Committee and on Presidential ad hoc committees for Developing Economies and Building Performance Alliance. He also serves as Faculty Advisor of the Mechanical/Electrical Specialty Contractors (MESC) student chapter, which is an umbrella student chapter co-sponsored by ASHRAE, the Mechanical Contractors Association of America (MCAA) and the National Electrical Contractors of America (NECA). He received an ASHRAE Technology Award in 1987, Region IX Chapter President of the Year, Region IX Hall of Honor in 2005, E. K. Campbell Award of Merit for Teaching in 2000 and the Distinguished Service Award in 2013. Tim was named an ASHRAE Fellow in 2005.

Tim has also been very active in the Mechanical Contractors Association of America (MCAA), where he has served as a trustee for the Mechanical Contractors Education and Research Fund (MCERF) and is currently a member of the National Education Initiative (NEI) faculty and also on the Institute for Project Management (IPM) faculty. He was named the MCAA 'Educator of the Year' three times (2000, 2002 and 2004) and in 2009 was the recipient of MCAA's highest award, the Distinguished Service Award, the first academic to receive the award.

COMPANIONS' TOUR

COMPANIONS' TOUR AGENDA - MAY 1, 2015

Pick up Companions at hotel at 8:30 a.m. Start with driving tour of Arsenal Island including: the National Cemetery, the Confederate Cemetery, Ft. Armstrong Memorial, Colonel Davenport Home, the Clock Tower, the Country Club, ending with a walking tour of Quarters One Mansion (the second largest government owned residence, behind the White House).

We will proceed to the village of LeClaire, IA. Here you will see shops of wine, chocolate, coffee, art, jewelry, clothing, home and kitchen décor, popcorn, antiques, gifts and more. Attractions include Mississippi River Distillery, Buffalo Bill Museum, Scott County Freedom Rock, and Antique Archeology – home of the American Pickers from the History Channel. You know – Mike, Frank, and Danielle? Lunch will follow at the Crane and Pelican restaurant in a mansion on a hill overlooking the town and the Mississippi River; a beautiful view.

Description of Features of driving tour of Arsenal Island.
The **Rock Island Arsenal** is an active U.S. Army facility located on a 946-acre island on the Mississippi River between the Quad Cities of Davenport, Iowa and Rock Island and Moline, Illinois. The island features many historical attractions: A replica of the **Fort Armstrong** blockhouses built in 1816, which was used to keep the peace as a military headquarters. Also the **Colonel Davenport House**. It was built in 1833 by a fur trader named Colonel George Davenport.

A monument marks the first railroad bridge across the Mississippi River. The steamboat Effie Afton hit the **Rock Island Bridge** in 1856, the ensuing fire destroyed the boat and damaged the bridge, creating a court case between the railroad and the ship company. Attorney Abraham Lincoln served as a lawyer for the Bridge Company, successfully defending them in a lawsuit from the ship owners. The island features an 1896 era government-owned **Government Bridge** for rail, river and car traffic. Its swing span rotates 360 degrees to allow river traffic to pass through. It is one of two similar existing bridges in the world. Accompanying the bridge is **Lock & Dam 15**, operated by the Corps of Engineers. It has a Visitor Center allowing an excellent vantage point to observe and learn about the lock and dam.

The only tangible remains of the prison barracks used in the Civil War Prison camps is the **Confederate Cemetery** located here at RIA. The Prison camp was one of 21 camps operated by the Union during the war. Grave markers identify the individual soldier, his company and his unit. The **Rock Island National Cemetery** is one of 117 national cemeteries. Established in 1863 as the post cemetery for Union prison guards it now covers 70 acres and has approximately 24,000 grave markers. The **Rock Island Arsenal Museum** opened to the public on July 4, 1905 and is the second oldest U.S. Army museum. The primary mission of the museum is to portray the history of Rock Island Arsenal and Arsenal Island. **Quarters One** - This majestic and historic 21,965 S.F., 51-room Italianate style villa designed by General Thomas Rodman and completed by his successor Lt. Col. D.W. Flagler is the second largest residence in the Federal Government System, second only to the White House. Constructed from 1870-1872, it served as the residence of the highest-ranking officer on the Rock Island Arsenal until 2008.