

Programs for the Orlando Meeting (February, 2005):

Seminar 6

Sunday, February 6, 8:00-10:00 AM

Training of Commissioning Authorities

Sponsor: TC 07.09 Building Commissioning

Chair: Gerald J. Kettler, P.E., Member, Air Engineering and Testing, Inc., Dallas, TX

APC Liaison: Jeff J. Traylor, Member, PWI Consulting Engineering, Durham, NC

The emergence and rapid growth of the commissioning process has strained available practitioners and caused a need for training programs for both new commissioning authorities and users of commissioning. This seminar discusses programs and options for this training.

1. Training for Commissioning Practitioners

Richard B. Casault, P.E., Member, Casault Engineering, Seattle, WA

2. Retro-Commissioning Training

Charles H. Culp III, Ph.D., P.E., Member, Texas A&M University, College Station, TX

3. Training for Field Operations for Commissioning

Andrew P. Nolfo, P.E., Member, National Environmental Balance Bureau, Sun City West, AZ

4. Owner's Expectations for Commissioning Training

Jeff J. Traylor, Member, PWI Consulting Engineers, Durham, NC

Seminar 54

Wednesday, February 9, 10:15 AM - 12:15PM

How to Comply With ASHRAE 62.1-2004

Sponsor: SSPC 62.1; TC 07.09 Building Commissioning

Chair: Eli Howard, Member, SMACNA, Chantilly, VA

APC Liaison: Mohammad H. Hosni, Ph.D., Fellow, Kansas State University, Manhattan, KS

ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality, contains many changes from the 2001 standard. The new standard incorporates more than 15 approved addenda. The methodology for calculating ventilation rates for buildings is fundamentally changed for the first time in 15 years. The standard also contains new requirements for building components and building systems. This session gives an overview of the requirements of the 2004 standard with emphasis on the new requirements.

1. Introduction and Overview

Andy Persily, Ph.D., Fellow, National Institute of Standards and Technology, Gaithersburg, MD

2. Ventilation Rate Procedure

Lynn G. Bellenger, P.E., Fellow, Pathfinder Engineers LLP, Pittsford, NY

3. Multiple-Zone Systems and Other Adjustments

Dennis A. Stanke, Member, Trane, La Crosse, WI

4. Equipment and Building Requirements

Hoy R. Bohanon, P.E., Member, Bohanon Engineering, PLLC, Clemmons, NC

Seminar 21

Monday, February 7, 8:00-10:00 AM

Best Water Treatment Practices in Commissioning Buildings: What Should Happen Between Installation and Building Occupation

Sponsor: TC 03.06 Water Treatment

Chair: Ron Wood, P.E., Member, U.S. General Services Administration, Washington, D.C.

APC Liaison: David W. Reid, Life Member, Retired, Berwyn, PA

In completing HVAC projects, there often is a delay between installation and building occupancy during which water systems and capital equipment can degrade, resulting in unbudgeted costs such as start-up delays, system cleaning, repairs and reduced energy efficiency. Improper commissioning is one of the most common root causes for Legionnaires disease outbreaks. Implementation of a sound commissioning program for the water systems is vital to ensure systems are delivered on time and in good condition. This seminar presents case studies and examines approaches to prevent these problems.

1. Flushing and Filtration of New Piping Systems

Ryan Caves, Claude Laval Corp., Fresno, CA

2. Cleaning, Passivation and Water Treatment During Lay-up

Mike Adams, Associate, Garratt Callahan, Atlanta, GA

3. Steps to Minimize the Risk of Legionella Infection

Tim Keane, Member, Legionella Risk Management, Chalfont, PA

4. Legionnaires' Disease Outbreaks at Commissioning of Cooling Water Systems: Australian Case Studies

Clive Broadbent, Member, Clive Broadbent & Associates Pty Ltd, Australia

Symposium OR-05-13

Tuesday, February 8, 8:00-10:00 AM

Automated Functional Testing: Methodologies and Air-Handling Unit Applications

Sponsor: TC 07.05 Smart Building Systems

Chair: John M. House, Ph.D., Member, Iowa Energy Center, Ankeny, IA

APC Liaison: C. Brian Wandling, P.E., Member, Control Specialists, Inc., Evansville, IN

Building commissioning is a labor intensive and costly process that requires specialized expertise. Tools that automate parts of the commissioning process, such as functional testing of HVAC systems and analysis of data resulting from these tests, have the potential to reduce initial commissioning costs and ensure persistence of proper operation throughout the life of the building. This symposium consists of four papers describing model-based methods and automated analyses of functional test data from air-handling units. The papers demonstrate how the methods can be used to determine nearoptimal operating conditions and operational faults in the systems under test.

1. Detecting Critical Supply Duct Pressure

Clifford C. Federspiel, Ph.D., Associate Member, Federspiel Controls, El Cerrito, CA

2. Application of Fault Detection and Diagnosis Techniques to Automated Functional Testing

Richard M. Kelso, Ph.D., P.E., Fellow, The University of Tennessee, Knoxville, TN;
Jonathan A. Wright, Loughborough University, Loughborough, Leicestershire, United Kingdom

3. Developing Component Models for Automated Functional Testing

Richard M. Kelso, Ph.D., P.E., Fellow, The University of Tennessee, Knoxville, TN;
Jonathan A. Wright, Loughborough University, Loughborough, Leicestershire, United Kingdom

4. Model-Based Automated Functional Testing: Methodology and Application to Air Handling Units

Peng Xu, Ph.D., P.E., Member, Philip Haves, Ph.D., Member and Moosung Kim,
Lawrence Berkeley National Laboratory, Berkeley, CA

Seminar 53

Wednesday, February 9, 10:15 AM - 12:15PM

How ASHRAE's Guideline on Commissioning Is Changing

Sponsor: GPCO

Chair: Walter T. Grondzik, P.E., Member, Florida A&M University, Tallahassee, FL

APC Liaison: Frank H. Schambach, Member, Total Building Concepts, Metairie, LA

Major changes to ASHRAE's approach to commissioning are underway. ASHRAE Guideline 1 has been split into two guidelines: Guideline 0P: The Commissioning Process, and Guideline 1: HVAC&R Technical Requirements for the Commissioning Process. Guideline 0P will provide a common structure for building commissioning

efforts, both for HVAC&R and for other disciplines (such as exterior envelopes and lighting). This seminar provides an overview of the key features of proposed Guideline 0, which is working its way toward publication.

1. Getting it Right from the Start: Commissioning During Pre-Design

Gerald J. Kettler, P.E., Member, Air Engineering and Testing, Inc., Dallas, TX

2. Designing for Commissioning: Commissioning and Design Professionals

John P. Castelvechi, P.E., Member, Shultz and James, Inc., Richmond, VA

3. Building Quality: Commissioning During Construction

J.R. (Joseph R.) Anderson, Member, Anderson Engineering, Germantown, TN

4. Continuing to Get it Right: Commissioning During Occupancy

Tim F. Corbett, Member, Social Security Administration, Baltimore, MD

5. It's in the Details: Commissioning Specifications

Michael J. King, Associate, ARCOM Master Systems, Alexandria, VA