Programs for the Dallas Meeting (January, 2007):

Seminar 26
Monday, January 29, 7:45-9:15 AM

Persistence of Commissioning Savings
Sponsor: *TC 07.09 Building Commissioning*
Chair: *Kenneth C. Peet, P.E., Member, LSE Engineering, Inc., Louisville, KY*

Savings obtained with a variety of energy efficiency measures have been found to lose persistence and degrade due to multiple causes. Equipment degradation and failure, lack of maintenance, facility use changes and overriding the programmed settings remain the primary mechanisms for losing savings persistence. The degradation time can be a few months to several years and, in many cases, can exceed 50+ percent. Also, certain energy efficiency measures have a higher susceptibility to savings loss. Measurement and verification, automated tools and other savings persistence methods can help sustain savings.

1. M and V for Persistence of Commissioning Savings
Charlie Culp, Ph.D., P.E., Fellow, Texas A&M University, College Station, TX

2. Automated Commissioning Tools for Persistence of Commissioning Savings
Daniel Choiniere, Member, Natural Resources Canada, Varennes, PQ, Canada

3. Persistence: Keeping Your Savings
David Claridge, Ph.D., P.E., Member, Texas A&M University, College Station, TX

TRANSACTIONS 15 (Intermediate)
Tuesday, January 30, 9:30 - 10:30 AM

Software Tools and Methodologies for Enhanced Building Operation
Track: *Operational Topics*
Sponsor: *TC 7.05 Smart Building Systems; TC 1.04 Control Theory and Application, TC 7.09 Building Commissioning*
Chair: *John M. House, Ph.D., Member, Natural Resources Canada, Varennes, PQ, Canada*

This symposium presents two papers describing software tools and methodologies for identifying and correcting, operational problems with mechanical equipment that can lead to energy waste, excessive equipment wear and occupant discomfort. The approaches use data collected during open-loop tests that could be performed as part of the commissioning process. One paper presents a semi-automated software tool for identifying operational problems in VAV air handling units through the assessment of functional test data. The second paper presents a generalized methodology for identifying

and canceling static nonlinearities in a controlled process that can lead to unstable feedback control.

1. A Semi-automated Commissioning Tool for VAV Air Handling Units: Functional Test Analyzer (DA-07-040)
Philip Haves, Ph.D., Fellow, Lawrence Berkeley National Laboratory, Berkeley, CA; Moosung Kim and Massieh Najafi, University of California, Berkeley, CA; Peng Xu, Ph.D., P.E., Member, Lawrence Berkeley National Laboratory, Berkeley, CA

2. Characterization and Cancellation of Static Nonlinearity in HVAC Systems (DA-07-041)
Ashish Singhal, Ph.D., Member and Timothy Salsbury, Ph.D., Member, Johnson Controls, Inc., Milwaukee, WI

Forum 9
Wednesday, January 31, 9:30 - 10:30 AM

Training Commissioning Providers
Track: *Business Management*
Sponsor: *TC 07.09 Building Commissioning*
Moderator: *Gerald J. Kettler, P.E., Member, AIR Engineering and Testing, Dallas, TX*

The commissioning process is expanding in both scope and the frequency of use. This expansion is exceeding the capabilities of existing trained providers of commissioning. Several organizations and universities provide training in the commissioning process. Some also provide certifications. As the leader in the commissioning movement ASHRAE should provide not only guidelines but also training requirements for commissioning providers. This forum discusses the development of standard commissioning training requirements and possible resultant certifications.