

**ASHRAE TC 9.10 Laboratory Systems  
Dallas  
Tuesday January 29, 2013  
Meeting Minutes**

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.  
1791 TULLIE CIRCLE, N.E./ATLANTA, GA 30329  
404-636-8400**

**TC/TG/TRG MINUTES COVER SHEET**

**(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)**

TC/TG/TRG NO      9.10      DATE January 29th, 2013  
 TC/TG/TRG TITLE      Laboratory Systems  
 DATE OF MEETING      January 29th, 2013      LOCATION Dallas

Members Present	Year Apptd	Members Absent	Year Apptd	Ex-officio members and additional attendance
Wade Conlan	2012	Pat Carpenter	2009	Roland Charneux
Henry Hays	2009	Brad Cochran	2011	George Sestak
Adam R Bare	2011			Jim Coogan
Mary Foutz	2009			Charles E. Henck
Peter Gardner	2010			Frank J Spevak
Fred Lorch	2012			Robert H Weidner
Mitchell Swann	2010			John P Castelvechi
Traci A Hanegan	2011			Charles W Coward
M Ginger Scoggins	2011			William A. Kumpf
Wayne M Lawton	2011			Kelley Cramm
Gaylon Richardson	2012			Carol Donovan
So-Yeng Chen	2012			David Rausch
Gordon P Sharp	2012			Nathan Ho
John O Varley	2012			Rajendera K. Kapoor
				Kurt Rindoks
				Brent Fullerton
				Andy Bosscher

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				Carl Crow
				George Isherwood
				Kishor Khankari
				Thomas Smith
				Kevin Sweeney
				Ronald Wendorsky
				Vernon Borgen
				Mark Hydeman
				William Peters
				Kevin Gilkison
				Jason Atkinson
				Scott Rusk
				Jeff Hardin
				Matthew Berberich
				Wei Sun

**DISTRIBUTION**

<i>All Members of TC/TG/TRG plus the following:</i>	
TAC Section Head:	Thomas Lawrence
TAC Chair:	William F McQuade
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Michael R. Vaughn
Standards liaison	Cecily M. Grzywacz
Manager of Research & Technical Services	Michael R. Vaughn
Research liaison	Kishor Khankari

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**1. Call to order 3:33**

Wade Conlan called the meeting to order and established a quorum with 13 voting members present out of 15 + 1 non quorum.

**2. Introductions**

All present introduced themselves and were invited to sign the attendance sheet.

**3. Membership Update**

All interested to be corresponding members should give their card to Wade, Roland or Fred with their ASHRAE number.

**4. Approval of previous minutes**

Minutes from the San Antonio meeting were reviewed.

Ginger Scoggins moved to accept the minutes.

Gaylon Richardson seconded.

Motion passed. (13-0-0 CNV)

**5. House keeping and announcements from Technical Activities Committee**

Roland Charneux reported news from the TC Chairs' meeting:

Society is seeking Hightower Award nominations

Conference and exposition committee (CEC)

Evaluation of speakers continues; speakers rating below 3.0 will receive a letter and will be requested to complete training before speaking again. Track chairs will manage the review process

TC websites, logo should be changed to new logo by TC's webmasters

TAC prepared a PowerPoint presentation on TC's that could be used at chapter dinners to explain what the activities within a TC are.

**6. Program Subcommittee (Scoggins)**

Ginger Scoggins reported from the Program Subcommittee

Dallas meeting – Jan. 26<sup>th</sup>-30<sup>th</sup>, 2013

Seminar 16 – Carol Donovan (co-sponsor with TC 2.2) – Animal Research Facilities

Seminar 60 – Jim Coogan - Guidelines and Codes Affecting Design and Operation of Laboratories.

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Denver meeting – June 22 to 26, 2013

Website: [www.ashrae.org/denver](http://www.ashrae.org/denver)

Schedule:

February 11, 2013 - Web Site Opens for Seminar, Forum, TPS and CPS Proposals

March 25, 2013 - Notifications of Conference Paper, Seminar and Forum Accept/Reject Status

May 6, 2013 - Upload of PPTs Begin

3 June 2013 - PowerPoint Presentations due

Tracks:

1. Research Summit: The Research track will include papers that report on all aspects pertaining to HVAC&R and attempts to bring together researchers to present and discuss the latest research. The Research track has an emphasis on Renewable Energy Research and its role in the industry's movement toward a clean energy economy.
2. Integrated Project Delivery (mini-conference): The Integrated Project Delivery (IPD) track addresses the evolving method of managing a design project from conceptual design through to the operation and maintenance phase, based on the concept of shared risk/profit and teamwork. Papers in this track will focus on success and lessons learned with IPD, as well as individual roles in IPD collaboration.
3. Building Energy Modeling vs. Measurement and Verification: The Building Energy Modeling vs. Measurement and Verification track includes papers discussing the accuracy of building energy modeling programs compared to utility usage in the actual building after one to two years of occupancy, investigates trends in building modeling; and/or the realities of construction and O&M, such as systemic construction issues that lead to long term non-performance and training staff to operate a building as it was designed to perform.
4. Mile-High Efficiency & Equipment: The Mile-High Efficiency & Equipment track presents papers highlighting new breakthroughs in equipment and building systems that contribute to a building's overall high-efficiency performance.
5. Renewable & Alternative Energy Sources
6. HVAC&R Systems and Equipment
7. HVAC&R Fundamentals and Applications

Programs discussed:

*Seminar on Modeling/M&V Case Studies* – Pete Gardner to chair.

60 minute session (Mark Hydeman + 1 other speaker)

*Forum on Fire/Safety Shut-downs in Labs and Resulting Pressurization Issues* - Reinhard Siedl to chair.

New York meeting – January 18 - 24, 2014

Website: [www.ashrae.org/newyork](http://www.ashrae.org/newyork)

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Schedule:

- March 15, 2013 – Conference Paper abstracts due
- April 19, 2013 – Technical Papers due for review
- May 5, 2013 – Conference Paper Abstract Accept/Reject Notifications
- June 3, 2013 – Web Site opens for Seminar, Forum, TPS and CPS proposals.
- July 3, 2013 Final Conference Papers submitted for review (Approved abstracts only: please include learning objectives and Q&A)
- August 12, 2013 – Seminar, Forum, TPPS and CPS program proposals due.
- Technical Papers final review due.
- December 6, 2013 – Upload of PPT's begin.
- January 3, 2014 – All PPT's due online.
- January 18, 2014 – Speaker's Lounge opens.

Tracks:

1. Tall Buildings: Performance Meets Policy: Track focuses on the performance of tall buildings or political challenges and opportunities in the design, development and operation of tall and super-tall buildings. Papers are sought on the measured and measurable use of utilities, envelope (infiltration and exfiltration), building pressure, waste handling, elevators, carbon and adaptive reuse.
2. Building Information Systems: Track investigates how building control technologies are integrated and used for building management, operation and efficiency.
3. Hydronic System Design: Track addresses innovative hydronic system design, components, research and case studies of their application, including unintended consequences.
4. Building Performance and Commissioning: Track seeks case studies in achieving high efficiency buildings.
5. International Design: Track addresses new and innovative design strategies to meet various environmental elements, geography and cultures and seeks papers to share this information internationally.
6. Environmental Health through Indoor Environmental Quality: Track seeks papers on developing, evaluating and predicting optimal indoor environmental conditions, especially as they pertain to environmental health. A subsection of this track includes case histories, lessons learned and advice to operators and designers about IEQ and disaster recovery in building affected by hurricanes and floods.
7. HVAC&R Systems and Equipment.
8. HVAC&R Fundamentals and Applications.

Programs discussed

*Seminar on Fire/Safety Shut-downs in Labs and Resulting Pressurization Issues – Reinhard Siedl to chair.*

*Seminar on Lab Fume Hood VAV System Controls and Operations – Jim Coogan to chair- Gordon Sharp, Saito Azbil and So-Yeng Chen to speak.*

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*Seminar on Lab Classifications* – Roland Charneux to chair – Adam Bare and Gordon Sharp to speak.

*Seminar on Hood Controls / Case Studies* – Carol Donovan to chair – Gaylon Richardson and Jim Coogan to speak.

*Conference Paper on Comparison of Lab Control Systems* – Gaylon Richardson to chair.

Seattle meeting – June 28 – July 2, 2014

Programs discussed:

*Seminar on Standard 202 and Integrated Systems Testing* – Gaylon Richardson and Wade Conlan

*Seminar on Basic Fume Hood and Bio-Safety Cabinets* – John Varley and Ginger Scoggins.

Wade Conlan requested that Traci Hanegan explore the subject of laboratory systems in the Seattle area.

#### Other Topics

Carol Donovan presented the topic of Laboratory Control System Set-up (including fume hoods, general exhaust and supply). After discussion on how to present this (short course, seminar, conference paper) it was decided to bring it up at the Denver Program Subcommittee Meeting.

#### Laboratory Design Short Course

John Varley reported the class was well attended (approximately 50) and that it will be presented in Mumbai, India the first week in March 2013.

## 7. Research (Wayne Lawton)

Wayne Lawton reported from the Research Subcommittee

RAC now has approval of research projects costing less than \$200,000.00.

RTAR 1544 Turbulence Intensity at the Fume Hood Face has been dropped. John Varley will confer with the Section 9 Research Liaison to determine how to rewrite and submit a new RTAR

A new RTAR for the Development of a Mathematical Model to Determine the Optimum Airflow Requirements for a Safe Energy Efficient Laboratory Environment will be written by Adam Bare

RTAR 1573 Investigate a Replacement Gas for SF<sub>6</sub> has been approved. Mark Hydeman will chair a committee of 4 to write the work statement. Goal is to submit before January 2014.

An RTAR on a Method of Test for Balancing Enclosures will be expanded to include Ductless Hoods. Tom Smith to lead.

RTAR 1201 The Effect of Passive and Active Chilled Beams on the Performance of Fume Hoods is on hold pending the results of activity in TC 5.3 Room Air Distribution.

The RTAR for Energy Recovery in Labs is on hold pending activity resulting from the issue of an addendum to 62.1 using ERV in laboratory exhaust.

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Traci Hanegan reported TC 9.6 has a research topic on an investigation of Laminar Diffusers and Air Curtains as used in Health Care Facilities. TC 9.10 may want to cosponsor this RTAR and include laboratories in the application. Follow up in Denver.

A brainstorming idea for research will be conducted at the Denver Research Subcommittee. Everyone is encouraged to bring ideas.

## **8. Handbook**

Carol Donovan reported for Lou Hartman

Request members of Design Guide Committee sent comments for changes to Handbook Chapter to Lou Hartman.

Approval due March 2014

Revised chapter 16 to be published in 2015

## **9. Standards**

Gaylon Richardson reported for the standards subcommittee.

Standard 90.1

Gaylon Richardson prepared an official answer from TC 9.10 to standard 90.1 concerning air tightness.

*“Several different scenarios are presented in the Applications Handbook Chapter 16 Laboratories. General labs have never been sealed and that resulted in offset control. Several biological labs require pressure differential control. If a pressure is being maintained the minimum controllable pressure shall be 0.05'WC as a minimum”*

Following discussion concerning the value of the controllable pressure, this item was rejected. Gaylon to contact Jeff Bolt for additional clarification. TC members are encouraged to send Gaylon back-up information on what might be a reasonable controllable pressure.

NFPA 45

Gaylon reviewed the new version and reported that he did not find any concerns. He also reported he could not find any reference to room air change rates. Following the completion of the conference paper on Lab Controls, TC 9.10 may want to confer with the NFPA 45 Committee concerning issues at change over and power loss.

SPC 110

SPC met and addressed previous comments to prepare for Public Review

## **10. Design Guide**

Henry Hays reported for the Design Guide Committee

Completion of the 2<sup>nd</sup> edition is in site (The end is near)

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Most chapters are ready for review. Target is to have review completed in June, so that TC can vote for acceptance in January.

Traci Hanegan stated that 2<sup>nd</sup> editions of design guides do not require TC approval. It was reported that the 1<sup>st</sup> edition was approved by the TC. Henry will check with Mark Owen to determine approval requirements.

Wade Conlan requested that the chapters be issued for review as they are completed, rather than waiting for the entire document. Henry will consider doing this.

## **11. Journal**

Roland Charneux reported an article was published in the October 2012 Journal relating to TC 9.10.  
*2012 ASHRAE Technology Award Case Studies: Efficient Science Building by Mike J. Lawless, Associate Member ASHRAE*

## **12. Liaison Reports**

TC 1.4 Control Theory and Applications (Jim Coogan reported)

Looking at certification of control system designs for buildings.

"Method of tests for airflow control" is out for 2<sup>nd</sup> limited public review.

TC 2.2 Plant and Animal Environment (Henry Hays reported)

Seminar in Denver on Laboratory Equipment Efficiency and Energy Savings. (TC 9.10 wishes to co-sponsor)

TC 4.3 Ventilation Requirements and Infiltration (No Report)

TC 4.10 Indoor Environmental Modeling (No Report)

TC 5.1 Fan Design and Application (Chuck Coward reported)

Seminar in Denver on high plume fans

TC 5.3 Room Air Distribution (Fred Lorch reported)

TC 5.3 is considering co-sponsoring research on laminar diffusers with TC 9.6

TC 5.8 Industrial Ventilation (Wayne Lawton reported)

90.1 wants input from TC 5.8 on ventilation for hazardous spaces design guide.

TC 7.7 Test and Balance (Gaylon Richardson reported)

Standard 111 is being revised.

GPC 11 is being revised.

Is TC 9.10 interested in seeing fume hoods in standard 111?

TC 7.9 Building Commissioning

Commissioning standard 202 is out for full public review.

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TC 9.2 Industrial Air Conditioning (Bill Kumpf reported)

Review of GDL 21 Battery Room Ventilation

TC 9.6 Healthcare Facilities (Traci Hanegan reported)

TC 9.6 wishes to know what hazards or potential contaminants exist in clinical laboratories that health care facilities may not be aware of.

TC 9.11 Clean Spaces

Clean room design guide 1<sup>st</sup> draft expected in Denver

SSPC 62.1 Ventilation for Acceptable Indoor Air Quality (Nathan Ho reported)

Changing filter requirements for wet coils to MERV 8 from MERV 6.

Considering seminar on energy efficient labs for Denver. TC 9.10 suggested changing to New York.

SSPC 90.1 (Wade Conlan reported)

Nothing to report related to TC-9.10.

SMACNA (No Report)

NFPA 45 (Dave Rausch reported)

NFPA 45 is in the early rewrite stage.

NSF (Frank Spevak reported)

Nothing to report related to TC-9.10.

ISPE (Pete Gardner reported)

Nothing to report related to TC-9.10.

ASSE Z9.5 (Tom Smith reported)

Tom Smith completed his term as chair. Gerhard Knutson is new chair

Z 9.14 (Bio Labs) soon to be published

I<sup>2</sup>SL, EPA, DOE (Gordon Sharp, Wade Conlan and Roger reported)

I<sup>2</sup>SL, "International Institute for Sustainable Labs", a private organization, is reorganizing to a membership organization with local chapters.

The next meeting is 23-26 September, 2013 in Minneapolis.

Developing Laboratory Performance Rating System.

A working group has been established to develop a "Laboratory Continuous Performance Improvement" system. (See attached proposed letter to ASHRAE from TC 9.10).

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**13. Old business**

The sub-committee on labs classification has been restarted.

**14. New business**

Mitch Swann reported a research project from TC 9.11 on the Particle Generation Measurements for Pharmaceutical Process Operations is having difficulty finding bidders.

**15. Evaluation**

Wade Conlan reported the TC is doing well

**16. Adjourn 5:13 pm**

Proposed by Pete Gardner, seconded by Ginger Scoggins.