



**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND
AIR CONDITIONING ENGINEERS, INC.
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TC/TG/TRG MINUTES COVER SHEET

TC/TG/TRG No. TC5.6

DATE: January 23, 2012

TC/TG/TRG/TITLE: Control of Fire and Smoke

LOCATION: Chicago, IL

DATE OF MEETING: January 23, 2012

VOTING MEMBERS PRESENT	YEAR APPT'D	VOTING MEMBERS ABSENT	YEAR APPT'D	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Kai Kang (Chair)	2013	Bill Black	2015	Cameron McCartney, CM
John Clark	2013			Raj Kapoor, CM
Paul Turnbull	2012	Matthew Davy	2015	Tim Orris, CM
Gerald Kettler	2014	Bob Van Becelaere	2012	Josh Greene, CM
				Josiah Wiley, CM
Valentina Nedelcu	2012	Larry Felker	2012	Ed Koop (G)
Ahmed Kashef (Vice- Chair)	2014	Tenison Stone	2013	Bob Dittrich, G
Peter McDonnell _Secretary	2015			Bob Sibilski, G
William Webb	2014			Michael Knipple, G
John Klote	2014			Dan Rau, CM
Ray Sinclair,	2014			David Kundel, G
George Hadjisophocleous	2014			
David John	2015			
				Gus Mastro, G
				Jeffrey Tubbs, CM
				Jim Buckley, CM
				Stephen D Carey, CM
				Cameron McCarthy, CM

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ASHRAE LIAISON	
TAC Section Head	Giustino Mastro
TAC Chair	Donald Brundage
Manager of Standards	Claire Ramspeck (Staff)
Manager of Research & Technical Services	Mike Vaughn (Staff)
Committee Liaisons	
ALI/PDC	Florentino J Mendez
Chapter Tech Transfer	Stephanie Reiniche
HB Applications	Charles Gullledge, III
Program Liaison	Riyaz Papar
RAC Research Liaison	Danny Castellan
Standard Liaison	Bodh Subherwal
Special Pubs	Stanley Mumma

These draft minutes have not been approved and are not the official, approved record until approved by this committee.

MINUTES
ASHRAE TC 5.6
CONTROL OF FIRE AND SMOKE
Chicago, IL
Palmer House Hotel (Hancock Rm)
Monday, January 23, 2012 – 4:15 to 6:30 PM

Prepared by: Peter McDonnell, PE
McClure Engineering Associates

1. Introductions

The Committee Chair Kai Kang called the meeting to order at 4:18 pm.

2. Identification of Voting Members

28 members and guests were present at the meeting. Voting members were identified. 12 voting members were present. 5 voting members were absent.

3. Chairman's Remarks

Kai welcomed members and guests and briefed attendees on the Section 5 meeting (please see attached). Kai informed the group about ASHRAE's rebranding efforts, including new website format.

Hightower Award – 2012 to Donald Beaty (TC9.9)

It is important for each member to keep their ASHRAE Bio up to date. There are training opportunities for members of TC's, please let Kai know if you would like to take one of these courses.

Kai also highlighted upcoming conferences:

High Performance Buildings Conference – March 12- 13, 2012 in San Diego, CA

CIBSE ASHRAE Technical Symposium – Buildings Systems and Services for the 21st Century: April 18- 19, 2012 in Imperial College, London

Fan 2012: International Conference on Fan Noise, Technology & Numerical Methods: April 18- 20 in Senlis, France

4. Approval of Minutes from June 27, 2011 Meeting (Montreal, QC)

The committee voted to accept the Montreal meeting minutes of June 27, 2011 (for approval: 12; against: 0; abstention: 0).

5. Subcommittee Reports

a) Research – Paul Turnbull

Active Research Projects:

- No active projects at this time.

WS-1447: (Performance of Pressurized Stairwells with Open Doors)

- WS was accepted by ASHRAE a year ago.
- It has not gone out to bid yet.

- All forms and information has been supplied to ASHRAE.
- At June meeting, Paul was told "It is first on the list to go out in the Fall bid package" but it did not go out to bid.
- It is one of 6 Work Statements that is approved that "should" go out to bid in the spring.
-

RTAR-1600 Make-up Air Velocity for Smoke Control in Atria (#2)

- RTAR has been accepted by ASHRAE for development into WS.
- The draft WS was extensively revised after June meeting to incorporate additional input received from TC members.

- Was submitted to Research Liaison for review, and received many suggestions for revision.
- At June meeting, Research subcommittee was notified that WS had been split into 2 parts; modeling and full-scale testing. It was intended that each part be bid separately, with full-scale test part contingent on favorable results in modeling part.
- Research Liaison said it would have to be 2 separate Work Statements because ASHRAE had no way to send it for bid in parts.
- Action item: Paul to rewrite WS to clearly define the 2 parts of the project, so that the overall scope and benefit is understood. – NOT COMPLETE.
- Technically, this WS is past the 2 year deadline between approval of RTAR and submission of WS, but Research Liaison felt it is better to get it right than rush into it with something that will be rejected. He noted that WS can be submitted without approved RTAR.
- Next due date for RAC action – May 15, 2012
- .

New RTAR 1644 (Smoke Control in Long Atria):

- RTAR was reviewed by the RAC and is being returned with comments requesting further revision and clarification. . Main comments:
 - Lacks details about deliverables
 - Please address budget concerns
 - Unclear how data would be used by ASHRAE
 - Need cost estimate from committee members familiar with this type work before it can be submitted.
 - Volunteers?

Ideas for future RTARs

- Plugholing issues in atrium smoke management using exhaust inlets located on the atrium walls – current practice assume conservative approach if using vents on the wall rather than on the ceiling – Gary Lougheed developed a draft RTAR for study of sidewall vents on plugholing, but it has not been distributed.
 - Includes full-scale study to validate CFD model behavior in close proximity to sidewall vents, and
 - CFD study to determine appropriate factor to be used in existing NFPA92 equation.
 - Need cost estimate from committee members familiar with this type work before it can be submitted.
 - Volunteers?
-
- Smoke purging from stair and shafts – by John Klote
- Comparisons of existing software tools to existing experimental data

New ideas for research topics?

- Ways to use results of modeling research – move toward open source
- Discussion of past research project # 1328 “Algorithm for Smoke Modeling in Large Multi-Compartment Buildings”. How can this algorithm be used for modeling multiple zone including the energy component (that COMTAM currently does not)? Ahmed discussed the elements of the work done in response to attendee questions. Bill Webb stated that those interested in this type of computer software could further develop the ‘abstract’ for this ‘project’. John Klote suggested a TG (Smoke Control Model) working

group could get a lot of interest from ASHRAE community would increase. Paul Turnbull will check with ASHRAE to find out what the availability of this information to general public.

b) Program – Valentina Nedelcu

Valentina updated the TC on the CEC and schedules for San Antonio (September 26 deadline for submission of technical papers and abstracts for conference papers). For San Antonio, it is “Leading the way to better buildings”.

Discussion of ASHRAE charging speakers the conference fee. Paul Turnbull noted that several years this was proposed and the TC make a clear statement of concern to ASHRAE. A motion was made “to send a written statement to ASHRAE to request that ASHRAE retain the current \$0 charge to speakers” by the Program Sub-committee Chair with assistance from Paul Turnbull.

It is not clear how the rates would be charged. A \$100 charge for a full conference registration for speakers.....

Chicago, Jan 2012

- ✓ Seminar – Alternative smoke detection systems for smoke control with Paul Turnbull as moderator and papers by George Hadjisophocleous, Ahmed Kashef and Matthew Davy. This program was not accepted. Paul will try to re-submit for San Antonio, once the speaker’s availability is confirmed for this.
- ✓ Conference Paper Session 5 - Atrium Smoke Management Natural Venting Challenges (CH-12-C014) papers by Ray Sinclair and Xiangdong Du.

San Antonio, June 2012 (TRACK 1, 2 & 7)

The conference web site has been opened. <http://www.ashrae.org/sanantonio/>

Seminar and forum session proposals are due by February 13, 2012

Final technical papers and final conference papers due by March 7, 2012

Track 1 HVC&R Systems and Equipment

Track 2 HVC&R Fundamentals and Applications

Track 3 Integrated Energy Systems

Track 4 Building Modeling Applications

Track 5 Refrigeration Applications

Track 6 Indoor Environmental Applications

Track 7 Integrated Building Controls

- ✓ Seminar – Special issues related to smoke control in large volume spaces with Jeff Tubbs as moderator and paper by Ray Sinclair and others to be determined.
- ✓ Seminar – Can smoke control contribute to sustainability (Title of the seminar to be finalized) with Paul Turnbull as moderator. Papers by John Klote and Bill Webb and Jeff Tubb. Seminar abstracts need to be submitted by Feb.13

Dallas, Jan 2013

The conference web site is going to be opened shortly after this meeting.

<http://www.ashrae.org/dallas/>

Conference Paper abstract/Conf.Paper session proposal due March 19, 2012

Conference Papers submitted for review are due early July 2012

Seminar and forum session proposals are due early August 2012.

- ✓ Seminar – in collaboration with TG9 JF Justice Facilities on smoke control in correctional facilities with possible seminar paper by Peter McDonnell.
- ✓ Seminar – Special issues related to smoke control in large volume spaces with Jeff Tubbs as moderator and paper by Ray Sinclair and others to be determined. Peter McDonnell has contacted the Mechanical Contractor for the Dallas Stadium.
- ✓ Seminar - Guideline 1.5 with papers from SMCNA on inspection process, AHJ on commissioning, etc. This will need to be evaluated at this Summer's Meeting, based upon publication of guideline by ASHRAE.

Denver, June 2013

- ✓ Seminar on Design fire for smoke control (possible papers by NRC and FPRF).
- ✓ Technical Session on Smoke control modeling - applications, validation, development (possible papers by Jarrod Altson, Leon Wang Bill Black, Ahmed Kashef).

➤ **New York, Jan 18-22, 2014**

To be determined

➤ **Seattle, June 2014**

To be determined

Future program topics.

No new topics were added to our agenda.

c) Membership – John Clark

John noted that the committee needs a balance of membership and would like invite anyone interested in the committee activity. A new committee roster is in place as of 1st of July. For those interested in becoming either a corresponding member or a voting member, please provide business card indicating preference as corresponding member or voting member and ASHRAE membership info. The committee is looking for representation from design engineers. John suggests guests to start as corresponding member, as voting member needs commitment for a 4-year cycle. By 2012, 4 members will be cycled off committee should look for a new members in a year or so.

We need to identify a replacement for Tenison Stone. Kai will review for new members to be added. This is due to ASHRAE tomorrow.

d) Handbook – Jeff Tubbs

The Handbook was published in June. The new cycle started where it will only be distributed electronically (no CDs).

Next time the chapter is issued will be 2015. For the next issuance, Jeff suggested that application information be added to assist the designer community. Potential building types such as:

Atrium Spaces

Malls

Stadium (Smoke Protected Facilities)

Healthcare

Detention / Correctional Facilities

High-rise (Residential / Office)

Combustible Storage

Underground Buildings

Stages

Performance-Based Approaches

Jeff will work with several members to work on more specifics to this list. This will reflect the IBC and NFPA 92 concepts, however it will not be presented as Code specific. This wants to be a general overview document to highlight items that should be considered in any design.

e) Guideline 1.5 – Paul Turnbull

Guideline 1.5 (Commissioning Smoke Management Systems) was completed just after the Montreal meeting (as approved by the TC). It went for public review and received no comments. The document proof was returned to ASHRAE on January 17, 2012. Paul is expecting a final proof of the guideline from ASHRAE. The title of the guideline appear to be different from what the sub-committee started with. Paul Turnbull asked for Gerald Kettler's assistance to identify the correct title to be consistent with the other portions of the series. Paul noted that the number appears to be clear, but the title is the question. Gerald asked what is the sub-committee's title preference. The suggested title of "Commissioning Process for Smoke Control Systems" was agreeable to those in attendance. It is anticipated that this Guideline would be approved by Standards Committee by June 2012.

f) Standards – No report, need an individual to be the liaison.

g) TC5.6 Web Site – Josiah Wiley

The committee's website address is: <http://tc56.ashraetcs.org>.

The logo will be updated, once that is received from ASHRAE. Bill Webb recommends that the TC secretary also be responsible for the TC website. Josiah noted that this is already happening.

6. Intra-Society Liaison Reports:

- a) New Smoke Management Book – Bill Webb reported that the book has been prepared and reviewed (approved) by the sub-committee appointed by Chairman of TC5.6. The book is now in ASHRAE's control to publish.
- b) TC1.4 (Control Theory and Application) – No report, need an individual to be the liaison.
- c) TC5.2 (Duct Design) - The Committee will meet on Tuesday. David John to attend.
- d) TC5.9 (Enclosed Vehicular Facilities) – The Committee will meet on Tuesday.
- e) TC5.10 (Kitchen Ventilation) – John Clark
Design coordination with sprinkler contractor for protection over Type I Grease Duct, there may be a control issue. John noted that a article was published in the February issue of the ASHRAE Journal on this subject.
- f) TC7.9 (Building Commissioning) – Jerry Kettler
Jerry noted that the Standard for commissioning existing buildings is very close to start. Existing ASHRAE Commissioning Guidelines 0.2 is going for final editing public review. ASHRAE Commissioning Guidelines 1.2, for existing HVAC systems, is about 80%. Guidleine 1.3 and 1.4 are being developed. Many standards for commissioning fire safety systems and testing are being developed by different bodies (NFPA, ASTM, IES, IGSS, etc.). It was noted that the new ICC 2012 Energy, Green Code and ASHRAE Std 189.1 all require commissioning process.
- g) TC9.1 (Large Building Air Conditioning Systems) – No report.
- h) TC9.8 (Large Building Air Conditioning Applications) – No Report, need new liaison
- i) TC9.10 (Laboratory Systems) – No Report, need new liaison.
- j) TC9.12 (Tall Buildings) – The Committee will meet on Tuesday

7. Inter-Society Liaison Reports:

- a) CIBSE (Chartered Institute of Building Services Engineers)
- b) NFPA 80 (Standard for Fire Doors and Fire Windows) – No report, need an individual to be the liaison. *Ed Koop to report at next meeting.*
- c) NFPA 90A (Air Conditioning and Ventilating Systems) – Jim Buckley

90A was voted on at NFPA meeting in Boston in early June 2011. One floor motion passed, removing fire/smoke dampers from certain shafts, reverting back to previous language requiring only fire dampers in those locations.

d) NFPA 92A and NFPA 92B (Smoke Management) – Paul Turnbull

The two standards are now one standard “NFPA 92”. No technical differences from 92A and 92B, but arranged to make it easier to find requirements for each type of system, and editorially revised to remove conflicting language that made it unclear which way to do things when both types of systems were in the same building. 92A and 92B are now obsolete. It is now available as 2012 document.

e) UL – Tim Orris

UL is starting to develop certified ratings program. UL will be a for-profit company

f) AMCA – Tim Orris

The AMCA Damper Engineering discussed a list of services issues with UL Staff in early March. The members are also working with the UL staff to improve the UL quoting tool. Intertek and FM Approvals presented information on their damper listing programs to the damper manufacturers as an alternative to UL.

g) SFPE – Jeff Tubbs

Jeff noted currently they updated the handbook (2012) will be expanded with more guidelines and there are new committees on how to use fire models for tall buildings (initial draft was submitted by end 2011 a 100-page guide be published). Guideline for substantiating models for their intended use. The new handbook is currently being developed. Also NFPA Std 204 has a lot of activity right now.

8. Old Business

9. New Business

10. Adjournment

The meeting was adjourned at 6:30 pm.