

# ASHRAE MEETING MINUTES – Kansas City

## TC 2.3 - Gaseous Air Contaminants/Removal Equipment TC Meeting

Tuesday, July 1, 2003

13:00 - 15:30

Hyatt – New York B Room (Ball Room Level)

- The meeting was called to order at 13:02 PM by Chairman Doug VanOsdell. The attendees that completed the Meeting Sign-In sheet were:
- Chicago Meeting Minutes were passed out; introductions were made; sign-up sheet passed out, attendees present:

Name	Email address
Doug VanOsdell (Chairman)	dvw@rti.org
Gemma Kerr	inair2@cyberus.ca
Brian Krafthefer	brian.krafthefer@honeywell.com
Scott Hanson	shanson@bruckerco.com
Dean Tompkins	dtompki@facstaff.wisc.edu
Bob Hendry	bob.hendry@gtri.gatech.edu
Charlene Bayer	charlene.bayer@gtri.gatech.edu
Karin Foarde	kkf@rti.org
Matt Middlebrooks	matt.middlebrooks@bbafiltration.com
Chris Muller	chris.muller@purafil.com
Phil Winters	pwinters@filtrationgroup.com
Derald Welles	dwelles@ixnetcom.com
Marilyn Listvan	mlistvan@pmlink.com
H.E. Barney Burroughs	heburroughs@mindspring.com
Paolo Tronville	paolo.tronville@polito.it
Nick Agopian	nagopian@dectron.com
Jim Moulton	jmoulton@hovo.com
Monroe Britt	mbritt@airguard.com
Chuck Rose	crose@aafintl.com
Erik Kuiper	erik@mail.ashrae.org
Stan Slabinski	sslabinski@aol.com
William Lull	TC23@garrisonlull.com
Paula Leuasseur	paula@cglcarbon.com
Bill Leedy	wbleedy@meadwestvaco.com
Lingying Zhao	zhao.119@osu.edu
Holly Bailey	holly@baileyeng.com
Yuanhui Zhang	yzhang1@uiuc.edu
Bob Burkhead	bobburkhead@blueheavenky.com
H. Ezzat Khalifa	ez@ecs.syr.edu

Jim Sand	sandjr@onrl.gov
Ron Domitrovic	rdomitrovic@a-gtech.com
Chang Song	c-sohn@cecer.army.mil
Chao-Hsin Lin	chao-hsin.lin@boeing.com
Sheryll B. Jerez	sjerez@uiuc.com
Mark Renn	mrenn@aafintl.com
Mike Corbat	mcorbat@filtrationgroup.com
Mike Strommen	mrstrommen@mmm.com
Sam Rivera	sam.rivera@fvna.com
Jeff Roseberry	jeffr@promarkassociates.com

- Motion was made and seconded to approve the meeting minutes of Chicago. Vote on approval of the minutes was 14, 0, 0, 1, 15 (for, against, abstain, absent, total).
- Scott Hansen did a Roster Check. Voting members present were:
  - Doug VanOsdell
  - Eric Kuiper (international)
  - Brian Krafthefer
  - Paulo Tronville (international)
  - Derral Welles
  - Nick Agopian
  - Scott Hanson
  - Marilyn Listvan
  - Dean Tompkins
  - Charlene Bayer
  - Barney Burroughs
  - Gemma Kerr
  - Bill Lull
  - Matt Middlebrooks

**Not Present in Kansas City:**

K.C. Hsieh (not present at meeting)

**Summary – 14 present; 1 absent; 15 total with 2 international members (Eric Kuiper, Paolo Tronville) present; a quorum was present.**

- Applications Handbook Liason (Brian Rock) gave remarks – He asked TC 2.3 to review its Application handbook chapter; e.g., Chapter 44. Brian encouraged handbook development contributors to make the handbook text as practical as possible.
- Meeting rooms in Kansas City (re: time slot) were fine and Doug will put in a similar request for the Anaheim meeting. There was some mention about moving the Research Subcommittee meeting to a later time slot (e.g., 20:30) so as to accommodate those individuals interested in viewing the Super Bowl. Separate

rooms for TC 2.3 and TC 2.4 were requested for the Anaheim Handbook subcommittee meeting. The Standards and Publications subcommittee meetings for the two TC's can be the same room.

- TRG2.BCBR (Technical Group on Blast Chemical Biological Remediation) has formed and remarks are to follow (see new business).
- All committee members are encouraged to attend the subcommittee meetings in Anaheim.
- There is a Green Building Guide – Some feedback will be accepted (see Brian Krafthefer and/or Bill Lull for further information).
- List was generated of those individuals present during the meeting who desire to offer their services to act as coordinators with outside organizations, area associates, etc. Those who signed up were:

Chris Muller	IEST, ASTM, ISO, SEMATECH
Bill Lull	Am. Inst. for Conservation of Historic and Artistic Materials (AIC)
Paolo Tronville	CEN TC 195; Eurovent WG4B; Comitato Termotecnico (CTI)
Matt Middlebrooks	IEST; INDA Filtration Comm. (CC-035)
Bob Hendry	ASTM; AWMA
Scott Hanson	NAFA, ISET
Charlene Bayer	IAIAQ; ARTI
Barney Burroughs	IEST; ASTM; ISIAQ; AIHA; IAQA; TISP
Chuck Rose	ARI; ARTI

## **Subcommittee Reports**

### **Planning (Eric Kuiper, Chair)**

- Meeting was held and several attendees were present. The Planning subcommittee recommended modification of the scope of TC 2.3 to include terrorism. Eric read the proposed revised scope from a handout developed at the planning subcommittee meeting. This handout contained language in the form of a proposal for the new scope. Discussion focused on the phrase “their effects on living things” but clarification was made to accept this phrase. In addition, three modifications to the planning subcommittee language were discussed and approved; specifically:

- 1) delete the parenthetical statement “(these are the province of TC 2.1)”,
- 2) replace “terrorism” with “hostile acts”
- 3) insert “gaseous” between “unwanted” and “contaminants”

Motion to accept the proposed scope revision, as revised at the main TC 2.3 meeting, was made, seconded and approved to accept the modifications to the scope of TC 2.3. The voting results are: 14, 0, 0, 1, 15 (for, against, abstain, absent, total).

The text of the TC 2.3 approved scope was:

TC 2.3 is concerned with the nature of trace gaseous contaminants; the measurement of their properties; their effects on living things and materials; the means of removing unwanted gaseous contaminants from gases; and the effectiveness, energy usage, and economy of such purification equipment.

For both ordinary and extraordinary situations (including hostile acts), TC 2.3 is concerned with the effects of gaseous contaminants on the quality of air supplied to and exhausted from enclosed spaces and with the sources of gaseous contaminant pollution within such spaces.

The TC scope covers all aspects of odor technology, including odors, which are produced by volatile particulate contaminants, but excludes purely physiological or psychological aspects of gaseous contaminants such as toxicology and odor perception.

Chairman Doug VanOsdell will submit the proposed scope change to ASHRAE.

- The planning subcommittee also discussed development of the TC 2.3 long-term road map. Mission statement by Brian Krafthefer; two goals: 1) improving the air, 2) saving energy. Gemma Kerr offered to assist with the road map.

See Minutes of the Planning Subcommittee meeting (attached) for details.

### **Membership (Scott Hanson, Chair)**

The Roster members and some of those providing sub-committee reports in Kansas City include:

Chair – Doug VanOsdell

Vice Chair – Eric Kuiper

Secretary – Dean Tompkins

Research – Karin Foarde

Planning (Vice-Chair) – Eric Kuiper

Membership – Scott Hanson through Kansas City then Paul Nelson.

Standards – Brian Krafthefer

Program – Dean Tompkins

ALI (ASHRAE Learning Institute) – Doug VanOsdell

Handbook – Derald Welles would like to pass this position on to someone else.

Gemma Kerr agreed to be the new chair of the Handbook.

International – Paulo Tronville, Eric Kuiper

Website – Nick Agopian

Publications – Marilyn Listvan

- Six individuals will be rolling off immediately after the Kansas City meeting including: Barney Burroughs, K.C. Hsieh, William Lull, Dean Tompkins, Scott Hanson, and Eric Kuiper. Those rolling up to status of voting member include Chris Muller, Chuck Schroeder, and Paul Nelson.

- Those finishing and rolling off in 1-year (immediately after Nashville) include Doug VanOsdell, Marilyn Listvan, and Charlene Bayer.
- Scott Hanson circulated a tablet for sign-up to become a corresponding member. Attendees were encouraged to sign up if they so wished to become a corresponding member. The list will be faxed by Doug VanOsdell to Paul Nelson, the new Membership subcommittee chair. (Follow-up note: List was faxed to Paul Nelson 7/02/03.)
- Doug VanOsdell circulated a form to sign in which ASHRAE thanks, via written notice, organizations, individuals (i.e., superiors, bosses, etc.), or otherwise for the active participation/attendance of individuals in TC 2.3. Attendees at the main TC 2.3 meeting were invited to sign this form if they desired. (Follow-up Note: Completed form was faxed to Gloria Cofer at ASHRAE HQ on July 8, 2003.)
- 7 corresponding members were identified (though not written in the main meeting minutes) and counted as present at the Kansas City meeting.

### **Program (Dean Tompkins, Chair)**

- Program items for future ASHRAE meetings were identified (and prioritized only for Anaheim); the programs include:

#### ANAHEIM (January 24 - January 28, 2004)

**1. FORUM:** Filtration/IAQ Needs for .... Hotels (co-sponsor with TC 2.4; Chair: Marilyn Listvan)

**2. SEMINAR:** Ventilation and Air Cleaning for Bars, Restaurants and Casinos (Co-chairs: Chris Muller, Paul Nelson)

**3. FORUM:** Post 9/11 impact on HVAC (co-sponsor with TRG2.BCBB; Chair: Dean Tompkins)

#### NASHVILLE (June 26-30, 2004)

**SYMPOSIUM:** Applications of UV Photocatalysis for Gaseous Contaminants (Chair: Marilyn Listvan) (NOTE: Marilyn has 2 papers in hand. Brian Krafthefer is assisting Marilyn on getting an additional paper. Also, Dean Tompkins is assisting Marilyn to get one additional paper.)

**FORUM:** Measurements of Gas Phase Contaminants: Who's kidding whom? (Chair: William Lull)

**FORUM:** Filtration/IAQ Needs for .... Hospitals (co-sponsor with TC 2.4; Chair: Bob Burkhead)

**SEMINAR:** AMC Standards for Clean Rooms (co-sponsor with TC 9.11 Chair: Matt Middlebrooks)

#### ORLANDO (February 5-9, 2005)

**SYMPOSIUM:** Review/Update on Odor (Chair: Brian Krafthefer) (NOTE: Brian is working to get Olle Fanger and Bill Cain for input on possible talks/papers.)

**SYMPOSIUM:** VOC Emission / Adsorption & IAQ (co-sponsor with TC 4.10; Co-chairs: Gemma Kerr, Steve Emmerich)

**SYMPOSIUM:** IAQ – Filtration (co-sponsor with TC 2.4; Chair: Kyung-Ju Choi)  
(NOTE: KJ was not present at the Kansas City program meeting. Dean Tompkins will inquire with KJ on desire to go forward with this symposium.)

**SEMINAR:** Filtration for Improved Indoor Air for Hospitals (co-sponsor with TCs 2.4 and 9.8; Chair: Chuck Schroeter) (NOTE: Chuck was not present at the program meeting. Chris Muller indicated that he would e-mail Chuck to assist in this seminar's future.)

**FORUM:** Filtration for ... Marine Applications and Cruise Ships (co-sponsor with TC 2.4; Chair: TBD)

Voting on Program for Kansas City - Motion made (Gemma Kerr), seconded (Marilyn Listvan), with voting results: 14, 0, 0, 1, 15 (for, against, abstain, absent, total).

**ACTION ITEMS:**

- Gemma suggested that TC 2.3 members identify and circulate (via e-mail) contact information with respect to individuals whom chair the various subcommittees of TRG2.BCBR (Blast, Chemical, Biological, Remediation). Dean Tompkins agreed to perform this task.
- TC 2.4 is proposing a seminar for Orlando (ASHRAE meeting) entitled "Filtration for ... marine applications and cruise ships." Dean Tompkins will make contact with Bob Burkhead to suggest that TC 2.3 co-sponsor this program.
- Discussion was made with regard to Seminar 26 (Kansas City ASHRAE meeting) - Filtration for compliance with IAQ procedure of Standard 62. Scott Hanson will work with Marilyn Listvan to get a publication, possibly special publication, in order to get the information presented in this seminar into text form in an ASHRAE publication.
- Chris Muller will make an effort to get the SEMINAR 26 onto the Web. Further, Marilyn Listvan and Doug VanOsdell will correspond to consider posting the seminars on the TC 2.3 website. There was some hesitation to post presentations containing information representing un-published data and data from other organizations that are copyrighted.

**Handbook Subcommittee (Derald Welles, Chair)**

- Meets every ASHRAE meeting from 16:15 to 18:00 on Mondays.
- Update on Handbook chapters:
  - Chapters 12 (due September 1, 2003) – Comments are due to Gemma by September 1, 2003 for those wishing to review portions/all of the contents in this chapter.
  - Chapter 13 on "Odor" (due June 14, 2004) – Derald mentioned that reviewers are being requested. Chris Muller offered to review the chapter; others were encouraged to review portions/all of the contents in this chapter.
- The Handbook is available as a CD or hardcopy form.
- Minutes of the Handbook subcommittee meeting in KC are attached.

### **Standards (Brian Krafthefer, Chair)**

- Discussed the draft of the guideline that Bill Lull had written for measuring gaseous contaminants. Committee will review and send comments back to Bill Lull ([tc23@garrisonlull.com](mailto:tc23@garrisonlull.com)). Comments will be included with letter of need to TC for submission in e-mail balloting.
- Review of Standard 62.1 was made by Scott Hanson at Standards subcommittee meeting and reported here:
  - Standards committee approved Addenda H and I. Still needs to go through ANSI appeal process. Final approval early 2004. Can still take credit for air cleaning in IAQ Procedure; based on mass balance equations or by identifying specified contaminants of concern and then demonstrating their concentrations are under established threshold limits.
  - Chris Muller will be going on to Standard 62.1.
  - Subcommittee structure being redone – onto two large committees. One of the subcommittees will be an educational committee. One committee will be administrative.
  - Guideline for Standard 62.1 will be drafted; TC 2.3 should participate.
  - ETS guide been contracted to Brian Rock. Addendum G is being finalized.
  - If ozone outdoors exceeds NAAQS - 160 and more than 1.5 ach, then have to treat ozone.
  - Need to determine building effect on ozone – potential research project for TC 2.3
  - Discussion of potential research project on how well IAQ Procedure works for handling something like particles in a building.
- Review of 62.2 – Jim Moulton
  - Standards subcommittee recommended publishing 62.2. Once through board and policy. Then when 62.2 is published then original 62 becomes 62.1.
- Guideline: Update on IEST activities.
  - a. Matt Middlebrooks is approximately 60% finished on getting text completed. New goal is to have a version for review by the Fall of 2003.
  - b. Guideline will be published in IEST's recommended practices.
  - c. Title: *Design Considerations for AMC in Clean Rooms*.
- Chris Muller gave an update on SPC 145.1 – Sec. 1, 2, 3, 4, 6 have been approved. Section 5, 8 will be discussed and (hopefully) approved in Anaheim.
- SPC 145.2 – Doug VanOsdell looking for a review/comments of current version of standard SPC 145.2 within a month (August 1, 2003).

### **Research (Karin Foarde, Chair)**

- RAC reviewed 14 work statements and most were sent back. Currently ASHRAE has 54 projects underway; 29 finishing in the next year; 6 were to be voted on in Kansas City.
- Work Statement #1302 – Title was “Comparison GPAFE Lab-Tests to Field Experience.” There are a few concrete, but not particularly substantial, comments to address in a forthcoming revision of the work statement authored by Matt Middlebrooks. Doug VanOsdell will have to get a vote out on this work statement. Karin Foarde expects to get the work statement to the new (academic)

ASHRAE research liaison for review. PMC voting members were asked to anticipate review of the newly revised and forthcoming work statement.

- 1098-RP “Field Test Methods To Measure Contaminant Removal Effectiveness Of Gas Phase Air Filtration Equipment - Phase II Field Study.” Charlene Bayer is the principal investigator. Goal will be to vote on approval of the final report by September 2003. The PMC will be making a recommendation on some action of the final report.
- 1243-RP “Detection And Measurement Of Gaseous Byproducts Of Fungal Growth That Affect Indoor Environments - Phase II.” The Principal Investigator (AQS) did not show up at the meeting. Karin will follow up with the PI to determine the status of the project.
- RTARs were developed during the Research subcommittee meeting and include:
  - 1<sup>st</sup> ranked - Chris Muller’s “Round robin evaluation of gas-phase filtration media” (RTAR submitted by Aug. 1, 2003)
  - 2<sup>nd</sup> ranked – “UV sterilization ...”
  - 3<sup>rd</sup> ranked – “How would gas phase filtration protect against an external/internal release of threat against? (What media to use? Where do they get placed? What does it do early on when the media is fresh and when it is old?” (TC 2.4 will be co-sponsoring, and possibly the new TRG2.BCBR.)
- Bill Lull articulated the concern of loss of research by TC 3.5 on adsorbents of VOCs. Bill Lull encouraged TC 3.5 member(s) to attend TC 2.3 meeting for continuing research in this realm. NOTE: Because of the transition in focus of research of TC 3.5 to TC 8.12 (which is concerned with equipment), there is concern in (the former) TC 3.5 that research of VOC on adsorbents will be less than it used to be.

#### **Publications (Marilyn Listvan, Chair)**

- TC 2.3 members were present at the subcommittee meeting.
- What is up-coming in ASHRAE publications? Answer:
  - Marilyn passed out a 1-page description of Special Publications.
  - ASHRAE special publication on what is being proposed for model control.
  - Passed out proposal to produce a special publication to prevent mold.

#### **Website (Nick Agopian, Chair)**

- TC 2.3 Web site (ashrae.org. → TC 2.3) has been updated. There are new buttons at the bottom of the screen with links to programs/presentations sponsored by TC 2.3.
- Passwords will be issued to members for access to information on the website: Motivation is to prevent non-ASHRAE members from getting access to TC 2.3 information.
- All subcommittee chairs should submit their meeting minutes to Dean Tompkins who will then forward them to Nick Agopian. Dean will solicit the meeting minutes and forward them to Nick.
- The web-site will be updated in the next 45-60 days.
- ASHRAE does have a web-site for hosting TC 2.3 stuff, but is only 20 MB in size.

### **TC Liaison Work:**

- No TC 4.10 member is interested in Symposium for Nashville.
- TC 3.5 voted and approved to be moved to Section 8 as TC 8.12, tentatively.

### **New Business:**

- Gemma Kerr was acknowledged and acclaimed as recipient of the distinguished service award from ASHRAE.
- Number of action items are needed to be performed ASAP.
- TG.BCBR (Blast, Chemical, Biological, Remediation) –
  - This TG has formed as of this meeting and first met at this meeting. The TG is looking for new members.
  - The TG desires to provide practical guidance regarding building response and equipment remediation to the threat of blast, chemical, biological threats from extraordinary events.
  - The TG seeks to have several programs submitted for consideration at upcoming ASHRAE meetings.
  - A new handbook chapter is being developed by this TG on extraordinary events.
- Guideline for Gas Phase Measurements “Measurement Procedures for Gaseous Contaminants in Indoor Environments.” This has been drafted; Brian will put out for comments; and then Bill will re-draft the Guideline.
- Motion made and seconded to adjourn the meeting. Voting results: 14, 0, 0, 1, 15 (for, against, abstain, absent, total). Meeting adjourned at 15:05.