

Minutes of Meeting January 29, 2001: ASHRAE Technical Committee 4.3 Ventilation Requirements & Infiltration

**2001 ASHRAE Winter Meeting in Atlanta
Georgia World Congress Center, 310E**

Subcommittee Meetings:

Research: Monday, 2:15 PM to 4:15 PM, GWCC 310E

Handbook: Sunday, 5:00 PM to 6:00 PM, GWCC 254W

Program: Sunday, 6:00 PM to 7:00 PM, GWCC 254W

Standards: None.

Honors: None.

Monday, 4:15 PM to 6:30 PM, Georgia World Congress Center

1. Call to Order and Self Introductions

Craig Wray, Acting Chair, called the meeting to order at 4:25 and conveyed the regrets of Safir Adeni, Chair

An attendance list was circulated

Voting and Corresponding Members were asked to please check their contact data on the circulated printout listing of the official 2000-2001 ASHRAE Roster for the TC.

2. Attendance & Quorum Check (Voting members for this meeting:)

Adeni, Wray, Rock, Reardon, Ratcliff, Weston, Feustel (IM), Liddament (IM), McIvor, Boome, Lstiburek, Petersen, Taylor, Yuill, Zhang. (13+2 IM, simple maj.=7, super maj.=8)

At the beginning of the meeting 10 Voting Members were present, quorum was established.

3. Approval of the Last Meeting's Minutes

Minutes from the last meeting in Minneapolis were distributed and reviewed. The minutes were approved **(Rock/Ratcliff: 10-0-0-0)**

4. Announcements & Society Liaisons

- Safir Adeni, our chair, has changed jobs and may step down as TC chair. Craig Wray would become new chair
- **TC 4.3's web pages:** <http://hvac.arce.ukans.edu/ashrae/tc4.03/main.htm>
- **Section 4 Meeting announcements**

Consideration by the Society for posting seminar presentations on the sponsoring TC's website for public access. Many unresolved issues remain, e.g., peer review, compliance with ASHRAE regulations, etc.

ASHRAE Research Journal is requesting articles, as is the ASHRAE Journal.

Board of Directors are receiving comments that the membership is not receiving good value for research funds expenditures. BoD considering changing the methods whereby research budget is determined. Proceeds from AHR may be redirected from Research, only matching funds raised directly by ASHRAE Research initiatives. News from MoR is that ASHRAE Research funds are currently overcommitted, and several projects will

have to be wrapped up before new projects can be funded. RAC may revise its approval procedures.

- **TAC, RAC, Handbook, etc. liaisons?**

5. Subcommittee Reports

a. Research (Craig Wray):

- Jim Reardon will be the incoming Research Subcommittee Chair.
- Craig Wray urged that the TC review its approach and the framework in which its long range research plan is formulated.

1. Current Research Projects:

- “Exhaust Contamination of Hidden vs. Visible Air Intakes”, 1168-RP, (**Walker/Liddament/Zhang**). Iain Walker reported the PMS will be modified with Mike Ratcliff replacing Martin Liddament. Project has just started, and preliminary plan will be reviewed by PMS. No current problems exist nor foreseen.
- “Heat Transfer during Residential Infiltration/Exfiltration”, 1169-RP, (**Reardon/Tuluca/Medina**) Jim Reardon reported that Dianne Griffiths may replace Adrian Tuluca on PMS. PMS met with Contractor before Research Subcommittee Meeting. Project is in initial stages, so far on budget and on schedule.

2. Long Range Research Plan as currently assembled is shown in the table below.

Rank	Title (Authors)
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- | | |
|---|---|
| 1 | The Effect of Ganging on Pollutant Dispersion from Building Exhaust Stacks (Ratcliff/Schuyler). Previously out for bids as WS-1167, all bids were deemed unqualified by PES. Mike Ratcliff will try to revise it for a letter ballot in time for submission to ASHRAE by May 15, 2001. The revised WS will include only isothermal plumes in its scope, with possible preliminary tests on buoyant plumes invited. |
| 2 | Multiple Space Effects on Ventilation System Efficiency in Standard 62 (Taylor/Liu). Steve Taylor submitted a draft WS today. SSPC 62.1 will be invited to vote to co-sponsor this WS. TC 4.3 members urged to review WS and return comments to STT by March 15, 2001, for possible letter ballot in time for May 15, 2001 submission to RAC. |
| 3 | Simplified Procedure for Calculating Exhaust/Intake Separation Distances (Wilson/Taylor). RTAR in draft form. No draft WS. |
| 4 | Characterization of Infiltration and Ventilation in Mid- and High-Rise Multifamily Buildings (Reardon/Hill). RTAR in draft form. No WS. |
| 5 | Minimum Acceptable Dilution of Commercial Kitchen Exhaust (Carter). RTAR in draft form? No WS. |
| 6 | Ventilation, Leakage and IAQ in Elementary Schools (Reardon/Levin/Wyon/EHC). RTAR in draft form? EHC and TC 2.1 are interested in this topic. No WS. |
| 7 | Occupant and Building Factors for Determining Ventilation Rates in Offices (Taylor/Fisk). RTAR in draft form? No WS. |

3. Co-Sponsor Requests

- Previous invitation from TC 9.2 to cosponsor “Airflow Patterns and Open Structure Infiltration Analysis of Large Industrial Facilities” No comments were received and no volunteers to champion it within TC 4.3. Decision to decline invitation to co-sponsor it and drop it from our agenda.
- TC 4.10 had invited TC 4.3 to co-sponsor draft Work Statement “Computational Prediction and Analysis of Natural Ventilation Through Large Openings”. Comments on the draft had been provided by Walker to authors Chen and Yang, that were subsequently lost. Walker will resubmit comments to TC 4.10 authors. Any additional comments should be sent to Duncan Phillips, TC 4.10 Res.Sub. Chair, with cc: to Sheila Hayter, Section 4 RAC Liaison.

4. Unsolicited Research Proposals (URPs):

No unsolicited research proposals are pending.

5. New research ideas:

- CO₂-based Ventilation Controls – **Steve Taylor** proposed a project to examine the feasibility of using CO₂ as an indicator of adequate ventilation – correlation between CO₂ and other bioeffluents. Taylor will prepare an RTAR for circulation.
- Forced vs. Natural Ventilation in Houses – **Dick Morris**, NAHB originally asked TC 4.3 to help prepare research ideas on this topic. Brian Rock and Richard Aynsley volunteered to help Morris to prepare one or more RTARs.
- Andy Persily reported that SSPC 62.1 is developing a list of research ideas needed to advance the standard 62.1, which he will share when available.

b. Program (Theresa Weston):

- Attendance at the symposium and the forum sponsored by TC 4.3 at the 2000 Annual Meeting in Minneapolis were well attended.
- There were no Program elements sponsored by TC 4.3 at this 2001 Winter Meeting in Atlanta. The review processes for symposium papers seems to be slowing down in recent years, leading to frustration by authors and chairs alike. Several other major conferences this year may have competed for papers and reviewers.
- A forum on Standard 62.1 was held on Monday morning in Atlanta which was well attended.
- February 9, 2001 is the submission deadline for program sessions for the Annual 2001 Meeting in Cincinnati.
- **Bruce Wilcox** will chair a Forum or a Seminar on SPC 62.2P. Max Sherman suggested this be a Seminar. **Joe Lstiburek** and **Max Sherman** each offered to submit a paper. Requested that this Seminar be scheduled for Wednesday morning in Cincinnati to not conflict with the SSPC 62.2P meetings schedule planned for then.
- Motion that TC 4.3 accept invitation by TC 1.4 to co-sponsor a Forum on the topic “Monitoring for Control” at the Annual 2001 Meeting in Cincinnati, approved (**Weston/Ratcliff**: 8-0-1-1)
- **Ron Petersen** is to chair a Seminar on “Avoiding Fume Reentry”, probably for Winter 2002 Meeting in Atlantic City. He has three papers on the go. This may be postponed until Annual 2002 Meeting in Honolulu.

- Another session idea “Criteria for Designing Intakes and Exhausts was suggested.
- **Andy Persily** will plan to chair a Forum or Seminar on Standard 62.1 in Atlantic City.
- Proposed symposium on residential ventilation and IAQ, to be chaired by **Dianne Griffiths**, needs one more paper to be viable. Difficulty recruiting reviewers.
- Proposed symposium on High-Rise residential buildings, to be chaired by **Jim Reardon**, Chair is experiencing delays; papers are in 2nd round review. May make deadline for Atlantic City program.
- For the Annual 2002 Meeting in Honolulu, one session may draw together two ideas: “Airflow Around Buildings” and “Wind Pressure Effects”. Another Forum on Standard 62.2 may be planned.
- Motion to approve Program Subcommittee report (**Weston/Petersen: 9-0-0-1**)

Please submit new program ideas directly to Theresa Weston by e-mail at:

Theresa.A.Weston-1@usa.dupont.com

c. Handbook (Mike Ratcliff):

- The latest volume is about to be mailed out to Society members. The revisions of chapter 13 *Airflow Around Buildings* coordinated by **John Carter** and of chapter 25 *Ventilation and Infiltration* coordinated by **Iain Walker** for the **2001 Fundamentals** handbook have been completed, and the galley proofs have been approved and “put to bed”.
- Chapter 43 *Building Air Intake and Exhaust Design* in the 1999 HVAC Applications handbook volume is next due for revision for voting on at the 2002 Winter Meeting in Atlantic City and publication in 2003. **A volunteer is needed to coordinate this chapter revision for a draft to be ready for the Annual 2001 Meeting in Cincinnati. David Wilson** was the principal author of the current version. Recent research projects’ results should be included in this revision.
- Other handbook ideas were discussed – where to place pressure monitoring devices if building pressurization is to be controlled; door operability in excessive wind events and mechanical operation; split Chapter 26 in Fundamentals into two chapters for 2005 version, with practical applications items to be moved to a new chapter for the HVAC Applications volume. **Walker** and **Sherman** were suggested as candidates for splitting up Chapter 26 Fundamentals, **Steve Taylor** may volunteer to help. Preparation of GPC-19 has begun, and SSPC 62.1 has committed to see it completed before 4 years are up.
- **Members were asked to please review our handbook chapters and to provide ideas for changes to Mike Ratcliff.**

d. Standards (Max Sherman/Gren Yuill):

TC 4.3 is the cognizant TC for the following standards:

62-1999/SSPC 62.1, *Ventilation for/and Acceptable IAQ (in Commercial, Institutional and High-Rise Residential Buildings)*

- Andy Persily Chair SSPC62.1 provided an update on the SSPC’s progress at this meeting.
- Two addenda were recommended for publication: (q) definitions providing clarification for infiltration and natural ventilation, and (s) filtration removal of particulates, MERV 6 filter upstream of wet processes.
- Three addenda recommended be sent out for public review: (x), (k) and (ab).

- One addendum (n) forwarded for TC review.
- Appendix C approved to go out for TC review (now Appendix B – concentration guidelines reference other organizations).

SPC 62.2P, *Ventilation and Acceptable IAQ in Low-Rise Residential Buildings*

- Max Sherman, Chair SPC 62.2P reported that the SPC met Friday and Saturday to resolve comments from the summer 200 first public review.
- Recommended draft for second public review, which if so approved by BoD, will take place during spring 2001.

119-1988 (RA94), *Air Leakage Performance for Detached Single-Family Residential Buildings*

- Max Sherman, previous chair of SPC which wrote the current standard, recommended that this standard should be revised.
- Joe Lstiburek has been nominated to chair this standard review committee, and a call for members has been issued.

136-1993, *A Method of Determining Air Change Rates in Detached Dwellings*

- Max Sherman reported that this standard has been reaffirmed.

SPC 161P (CoC, TC 9.3 is Lead), *Air Quality Within Commercial Aircraft*

- There was no formal report, but news was relayed that this SPC is being reconstituted with a new chair and new membership, who will revisit all progress/discussion to-date.

Other standards of interest:

129-1997 (TC 5.3), *Measuring Air Change Effectiveness*

- No report on status.

SPC 152P (TC 6.3), *MOT/ Determination of Steady State and Seasonal Efficiency of Residential Thermal Distribution Systems*

- Iain Walker reported that the latest draft has been recommended at yesterday's meeting to go out for 2nd public review, and that a letter ballot on the 2nd public review is expected within the next couple of months.

New Ideas

Elia Sterling addressed the TC about the recent suggestion by the Nevada Resource Association that a special SPC be created to investigate creating a standard dealing with Ventilation and IAQ for the hospitality industry. Discussion ensued, but no conclusions were reached.

New standards ideas should be brought to the attention of the subcommittee's new Chair, Gren Yuill.

e. Honors (Gren Yuill / Art McIvor):

- Uncertainty about who is currently the chair of the Honors Subcommittee, both Gren Yuill and Art McIvor indicated that neither of them is currently serving as chair.

- Bernardo Cardenal volunteered to serve as (at least interim) subcommittee chair.
- Members were urged to keep their biographical records at ASHRAE up-to-date because those records are used as the principal basis for the society's awards.
- Members were urged to upgrade the status of their ASHRAE membership as soon as they are eligible, since one strict requirement for nomination to Fellow is 10 years as a Full Member in the society.
- ASHRAE awards are presented once annually. Specific requirements to qualify for Distinguished and Exceptional Service Awards and Fellowship are available from the ASHRAE website: www.ashrae.org Nominations should best come from/through local chapters.

6. Old Business

The Chair encouraged those present to get involved in subcommittee activities.

7. New Business

Membership

- The following roster changes were proposed to come into effect following the Annual meeting: Craig Wray to Chairman, James Reardon to Vice Chair and Research Subcommittee Chair, Steven Taylor to Secretary
- Safir Adeni and Brain Rock will be rolling off as voting members.
- The following corresponding members will be added: Dianne Griffiths, Ted Stathopoulos, Steven Emmerich, Mike McDermott, Xudong Yang.

8. Adjournment at 5:58 PM. Next TC 4.3 meeting at the ASHRAE 2001 Annual Meeting, Monday 25 June 2001 4:15-6:30 PM in Cincinnati, OH.