

**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.:** TC 5.9  
**TC/TG/TRG TITLE:** Enclosed Vehicular Facilities  
**DATE OF MEETING** January 27, 2004  
**LOCATION:** Anaheim, CA

<b>VOTING MEMBERS PRESENT</b>	<b>YEAR APPT'D - TERM ENDING</b>	<b>VOTING MEMBERS ABSENT</b>	<b>YEAR APPT'D - TERM ENDING</b>	<b>EX-OFFICIO (CM) MEMBERS AND ADDITIONAL GUEST (G) ATTENDANCE</b>
Sudhir Agrawal George Gamble Geo. Hadjisophocleous Paul Miclea John Murphy Asesh Raychaudhuri J. Greg Sanchez Jim Schick Ray Sinclair Robert Smith	2001 - 2005 2003 - 2007 2000 - 2004 2002 - 2006 2003 - 2007 2003 - 2007 2000 - 2004 2003 - 2007 2000 - 2004 2003 - 2007	Mario Boragina Gary Kile Colin Macedo	2000 - 2004 2003 - 2007 2000 - 2004	Tora Abrahamson (G) Johnny Andersson (CM) Sean Cassady (CM) Mark Colino (CM) Joe Gonzalez (CM) Joe Grella (CM) Ahmed Kashef (CM) Roger Lichtenwald (CM) Gary Lougheed (G) John Lyle (G) Kevin Marple (G) Kirk McDaniel (G) Amy Musser (G) Dharam Pal (CM) Steve Presser (CM) Gideon Rozen (CM) Jeffrey Tubbs (G) Robert Van Becelaere (G)

**DISTRIBUTION:**

**ALL MEMBERS OF TC/TG/TRG, ALL ATTENDING GUESTS, TAC CHAIR:** Mark C. Hegberg

**TAC SECTION HEAD:** Daniel Int-Hout III

**LIAISONS:** Marilyn A. Listvan (Special Publications), Davor Novosel (Standards), Michael R. Brambley (Program), Brian J. Webb (RAC Research), Charles E. Gulledge (TEGA), Samuel D. Cummings (ALI), Michael R. Vaughn (Staff - Research/Tech. Services), Claire B. Ramspeck (Staff - Standards), Gary C. Debes (Handbook).

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Technical Committee TC 5.9 - Enclosed Vehicular Facilities

Meeting Minutes - January 27, 2004 - Anaheim, CA

**Paul Miclea called the meeting to order at 3:45 PM.** Ten out of 13 voting members present provided quorum.

**Review of prior TC 5.9 Meeting Minutes (July 1, 2003 - Kansas City, MO).** George Hadjisophocleous made a motion to approve the minutes, Sudhir Agrawal seconded the motion; the minutes were approved without revision.

**Section 5.0 Announcements:** TC5.9 Chair Paul Miclea reported that the primary ASHRAE handbook is once again the hardcover volume, and that the CD version will be considered as supplemental. He also reported that ASHRAE had issued a 'Green Guide' for environment-friendly design work, which the TC 5.9 members can review on their own accord. In addition, Paul noted that the individual TC chairs are now responsible for updating the personal information of the members; information updates should be sent directly to the TC5.9 chair - with a copy to the secretary (Mark Colino). Finally, he noted that ASHRAE Standards Sub-Committee may be re-instated, and that homeland security issues may be addressed as part of the sub-committee work.

**Program Sub-Committee Report:** Sub-Committee Chair Ray Sinclair summarized his recent discussions with ASHRAE Program Committee representatives and liaisons. He noted that ASHRAE has constraints on program event scheduling at all meetings due to conference space and time slot limitations. Based upon the information provided by the ASHRAE Program Committee representatives/liaisons, strategies for planning future seminars, symposiums and forums were discussed in the TC5.9 Program Sub-Committee meeting (1:00 PM - 2:20 PM, January 27, 2004). Except for the upcoming 2004 Annual Meeting in Nashville, future program event planning will attempt to include at least one symposium, and at least one other program event (either a seminar or a forum) in upcoming meeting requests; the proposed events will be ranked in accordance with their general importance and overall acceptability. To receive additional consideration, TC5.9 Program events that are not accepted by ASHRAE for upcoming meetings shall be re-scheduled, and noted as having been postponed on requests for future meetings. In addition, more attempts will be made to establish co-sponsorship of TC5.9 Program events with other technical committees (in particular with TC4.10, TC5.1 and TC5.6), and vice-versa, to improve the overall event quality and appeal. In the Sub-Committee meeting, each of the TC5.9 Program events scheduled via the July 1, 2003 meeting minutes was re-visited in terms of: event type, proposed meeting date, topic, planned contributors and chairperson availability. The following is the current TC5.9 Program event status:

- **Anaheim, CA (January 24-28, 2004)**

AN1: Seminar 2 - 'CNG Systems and Facilities for Indoor and Outdoor' (Chair: Sudhir Agrawal)  
Sudhir reported that this event commenced as scheduled at 8:00 AM on January 25<sup>th</sup>, and that about 25 guests attended. More than 40 questions were asked during the Q&A segment, and the event was rated favorably on the review sheets. A future forum was recommended on 'Alternate Fuel Vehicles in Facilities'.

- **Nashville, TN (June 26-30, 2004)**

NA1: Seminar - 'Diesel Locomotives in Enclosed Vehicular Spaces'  
(Chair: Bob Henry, as substitute for Joe Grella)

NA2: Seminar - 'Design Considerations to Limit Dispersion of Immediately Harmful Contaminants in Large Buildings and Enclosed Vehicular Facilities' (Chair: Paul Miclea)

NA3: Forum - 'Fire Detection & Instrumentation in Tunnels' (Chair: Sean Cassady)

- **Orlando, FL (February 5-9, 2005)**

OR1: Symposium - 'Ventilation and IAQ in Large Mass Transit Facilities' (Chair: G. Hadjisophocleous)

OR2: Seminar - 'Current Standards and Practices for Enclosed Vehicular Facility Ventilation Equipment' (Chair: Gary Kile, tentative)

OR3: Seminar - 'Testing & Maintenance of Life Safety Equipment' (Chair: Robert Smith)

- **Denver, CO (June 25-29, 2005)**

DE1: Symposium - 'Equipment Testing, Specifications and Performance' (Chair: Sudhir Agrawal)

DE2: Seminar - 'Fire Detection and Instrumentation in Tunnels' (Chair: TBD)

DE3: Forum - 'Alternate Fuel Vehicle Facilities' (Chair: TBD)

- **Chicago, IL (January 14-18, 2006)**

CH1: Symposium - 'Evacuation Methods of Analysis in Mass Transit Facilities' (Chair: TBD)

CH2: Seminar - 'Emergency Transit Station Ventilation CFD Model Benchmark Roundtable' (Chair: TBD)

- **Quebec City, CANADA (June 24-28, 2006)**

QC1: Symposium - 'Methods of Estimating Fire Heat Release Rates of Transit Vehicles' (Chair: TBD)

QC2: Seminar - 'Comparison of Tunnel Ventilation Simulation and Field Tests' (Chair: Jurij Modic)

Also, Aresh Raychaudhuri suggested that TC5.9 co-sponsor an as-yet-untitled TC5.1 symposium regarding fans at the 2004 Annual Meeting in Nashville; schedule request for symposium will be morning of June 29<sup>th</sup>. And, Paul Miclea reported that a new technical committee (TC9.9, entitled 'Mission Critical Facilities') was being created by ASHRAE, and that program event co-sponsorship opportunities may exist with this future TC, as well.

**Research Sub-Committee Report:** Sub-Committee Chair John Murphy reported that he had drafted a new Research Topic Acceptance Request (RTAR), entitled 'Subway Fire Scenarios', which combined the work scope of two previous RTAR's: #2004-30 'Existing Subway Design Fire Scenarios' and #2004-31 'Subway Design Fire Scenarios - Evaluation'. The two previous RTAR's had been returned because the ASHRAE Research Advisory Committee thought they should be merged into one, phased project. Copies of the new RTAR submittal were circulated within the TC5.9 meeting for comment; the new RTAR is to be finalized at the June 2004 Annual Meeting. John also noted that a potential funding issue may exist with ASHRAE, and that APTA was cited in the RTAR as a possible co-funding organization. In the TC5.9 Research Sub-Committee meeting (2:20 PM - 3:20 PM, January 27, 2004), updated cost estimate data was requested for both the testing and analytical phases of the new RTAR; George Hadjisophocleous and Joe Grella, respectively, volunteered to provide inputs.

Joe Grella reported that the research project #1191 report (entitled, 'Control of Diesel Exhaust Fumes in Enclosed Locomotive Facilities') submitted by Dr. Amy Musser of the University of Nebraska/Lincoln had been approved by prior vote of Technical Committee 5.9. Dr. Musser subsequently prepared a related insert for the next edition of Chapter 13 ('Enclosed Vehicular Facilities') in the ASHRAE HVAC Applications Handbook; the insert was distributed via e-mail to the TC5.9 membership prior to the January 2004 Winter Meeting. Joe Grella made a motion to accept the proposed handbook insert; John Murphy seconded the motion. By vote of 10 to zero, the insert was approved for inclusion in the next handbook edition. RP #1191 is now complete.

John Murphy noted that another possible research topic had been discussed in the earlier sub-committee meeting; this topic would address dispersion modeling/ventilation design analysis and research concerning the

introduction of biohazards, or other harmful contaminants, into rail transit systems. Paul Miclea proposed the formation of an ad-hoc committee on the subject of homeland security research issues; the members of TC5.9 were asked to send suggestions to John Murphy regarding possible research topics in this area.

**Handbook Sub-Committee Report:** TC5.9 Website Manager Sean Cassady provided the Handbook Sub-Committee report for Chair Colin Macedo. Amy Musser attended the ASHRAE Handbook Committee meeting and reported that any errata and/or digital supplements to the 2003 edition of the HVAC Applications Handbook were to be submitted by April 4<sup>th</sup>. Sean noted that errata had already been received regarding the tunnel 'portal door' equation and some other unit conversion issues. Paul Miclea provided a summary of the handbook items discussed during the ASHRAE TC Chair Meeting; these items included: implementation of cross-referencing, conversions to PDF format, maintaining accuracy/brevity of text and updating of chapter references. Mark Colino provided a report on the past handbook revision cycle, and noted that a letter of complaint was sent to ASHRAE regarding the changes made to the original TC5.9 manuscript and the time permitted to review the check prints.

Sean reported on the current issues affecting the next (2007) edition of the ASHRAE HVAC Applications Handbook/Chapter 13; these issues include the integration of the RP #1191 material into the Diesel Locomotive Facilities section, enhancements to the chapter Introduction and newly-proposed sections on both Automotive Repair Facilities and CNG Facilities. He also reported that comments had been received during the earlier TC5.9 Handbook Sub-Committee meeting (3:20 PM - 3:45 PM, January 27, 2004) about restructuring the chapter format and naming new lead authors for each section. TC5.9 comments regarding the layout of the next handbook edition were requested before the June 2004 Annual Meeting, at which point the lead authors will also be named.

**Liaison Reports:** Paul Miclea read an update of the NFPA committee activities that was provided by NFPA 130 Chair Bill Kennedy. The 2003 edition of NFPA 130 was issued in October; changes included conversion to SI units, addition of more performance-based guidelines, etc. Also, a conflict exists concerning the exiting provisions in the Standard and the writing of Annex C; the conflict will be resolved by an interim technical amendment. The NFPA 502 Committee voted on the 2004 edition of the Standard in January; the national membership is scheduled to vote this coming May. The changes to NFPA 502 are regarded as more evolutionary than revolutionary.

Asesh Raychaudhuri reported that TC5.1 held Seminar 31 - 'Fan System Assessment Tool and Qualified Specialist Training: Model for Increasing Industrial Fan System Efficiency' (which was co-sponsored by TC5.9) on January 26<sup>th</sup>. Asesh also noted that related materials are available on the DOE website. Gary Loughed reported on the TC5.6 events, including Seminar 51 - 'Atrium Smoke Management Case Studies' and Symposium AN-04-11 - 'Fire and Smoke Control Practice and Research: IBC and NFPA' (both of which are co-sponsored by TC5.9), scheduled for January 28<sup>th</sup>. Gary also noted that TC5.6 was planning a symposium and a forum for the Nashville meeting regarding smoke control system design, and that two related RTAR's have been approved by ASHRAE.

Kirk McDaniel reported on the mining industry and noted that the Society of Mining Engineers had met in Denver, CO in January 2004, and that a North American Mine Ventilation Symposium was scheduled for May 2004 in Anchorage, AL. Kirk reported that approximately 90 technical papers would be presented on topics concerning diesel emissions, the CFR 75 standard, etc. Paul Miclea reported that Tunnel Management International had held a Safety in Road and Rail Tunnels Conference in Marseilles, France (October 2003), and that TMI was also planning a Tunnel Fires Conference for October 2004 in London, England.

**Membership:** TC5.9 members were encouraged to become voting members; guest attendees were invited to become corresponding members. Gary Loughed requested to become a corresponding member of TC5.9.

**New Business and Comments:** Sean Cassady reported that ASHRAE-approved papers and presentations from completed seminars/symposiums will now be saved on the website, as will a calendar of upcoming events. Sean also provided the username and password needed to obtain privileged information from the TC5.9 website.

Paul Miclea noted that the U.S. Office of Homeland Security has scheduled a simulcast for April 14<sup>th</sup>. Jeff Tubbs reported that the Society of Fire Protection Engineers had completed new guidelines, and is currently developing (jointly, with the International Code Council) guidelines for enforcers to review performance-based designs.

**Paul Miclea adjourned the meeting at 4:55 PM.** Next meeting is scheduled for June 29<sup>th</sup> in Nashville, TN.

*Recorded by Mark Colino, TC5.9 Secretary*