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**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 **DATE:** June 26, 2012  
**TC/TG/TRG TITLE:** Enclosed Vehicular Facilities  
**DATE OF MEETING** June 26, 2012 **LOCATION:** San Antonio, TX

VOTING MEMBERS PRESENT	YEAR APPT'D - TERM ENDING	VOTING MEMBERS ABSENT	YEAR APPT'D - TERM ENDING	EX-OFFICIO (CM) MEMBERS AND ADDITIONAL GUEST (G) ATTENDANCE
Robert Smith Mark Colino Igor Maevski Anthony York Nader Shahcheraghi Asesh Raychaudhuri George Gamble John Murphy	2008 – 2012 2008 – 2014 2011 – 2015 2011 – 2015 2009 – 2012 2010 – 2014 2008 – 2012 2010 – 2014	Don Guan Mohammad Tabarra (NQ) Greg Sanchez Dharam Pal (NQ) George Hadjisophocleous Ahmed Kashef Ian Ong	2008 – 2013 2009 – 2013 2008 – 2012 2010 – 2014 2008 – 2012 2011 – 2015 2008 - 2012	Tom O'Dwyer (CM) Josiah Wiley (CM) Kai Kang (CM) Kevin Chang (CM) Jane Miller (CM) Fred Shortts (CM) Bill Lampkin (CM) Andrew Louis (CM) Dave Schowalter (G) Cameron McCartney (G)

**DISTRIBUTION**

***(All Members of TC/TG/TRG plus the following):***

**TAC SECTION HEAD:** Gus Mastro

**COMMITTEE LIAISONS:** Kimball Ferguson (Special Publications), John Hogan (Standards), Alan Veeck (Program), Fred Kohloss (RAC Research), Michael Circosta (Chapter Technology Transfer), Julian De Bullet (Professional Development), Samuel Cummings (ALI), Dave Meredith (Handbook); Claire Ramspeck (Staff Liaison); Michael Vaughn (Research & Technical Services)

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.**

Technical Committee TC 5.9 - Enclosed Vehicular Facilities  
Meeting Minutes – 26 June 2012 – San Antonio, TX

**The meeting started with a sad news to all engineering community and to ASHRAE TC5.9 that Mr. Bill Kennedy died peacefully at Princeton Medical Center at Plainsboro on June 23, 2012. Mark Colino gave a speech.** Bill Kennedy was an active member within the engineering industry, maintaining membership and holding leadership roles in many professional organizations, including American Society of Heating,

Refrigeration and Air Conditioning Engineers (ASHRAE), where he was a member and a Technical Committee 5.9 chair from 1993 to 1996.

He was a renowned tunnel ventilation engineer. He was a major participant in the development of the Subway Environment Simulation (SES) program, which has been accepted industry wide as the standard tool for subway design for the last 40 years. His most recent responsibilities included providing guidance to the tunnel ventilation division's computational fluid dynamics group of Parsons Brinckerhoff, and directing the application of the proprietary computer program Simulex to station and tunnel emergency exiting. Bill worked for PB since 1966. He was also an active member within the engineering industry, maintaining membership and holding leadership roles in many professional organizations, including American Society of Mechanical Engineers (ASME); U.S. member of the Organizing Committee for the International Symposia on the Aerodynamics and Ventilation of Tunnels (ISAT) for 10 consecutive conferences - the May 5, 1985 through the May 14, 2011; U.S. member of the International Technical Committee for Safety in Road and Rail Tunnels Conferences (SRRTC) from the Nov. 1, 1992 through the Oct. 5, 2003; American Public Transportation Association (APTA), chair of Ventilation Technical Forum (1997 to 2009); National Fire Protection Association, member (1998 to present) and chair (2000 to 2010) of Fixed Guideway Transit and Passenger Rail Systems Committee - NFPA 130; Engineering Advisory Board to the Columbia University Department of Mechanical Engineering, member (2007 to present); and Plainsboro Township Zoning Board of Adjustment, member (2008 to present).

**Robert Smith called the meeting to order at 3:30 PM.** There were 8 out of 14 voting quorum members present. The voting member attendance met requirements for a quorum.

#### **Section 5.0 Announcements:**

1. Importance to maintain the website was highlighted.
2. Recommend meeting minutes to be posted within 2 month after the meeting
3. List of candidates for nomination of the High Honor Awards is due by September 1, 2012.
4. Starting from the January 2013 meeting there will be a \$95 registration fee for the speaker
5. Certificate of appreciation was presented to Mr. Robert Smith – chairman of the TC5.9
6. A new ASHRAE logo is effective

Section 5 announcements will be posted on the ASHRAE web site.

**Review of prior TC 5.9 Meeting Minutes** (January 24, 2012– Chicago, IL): Asesh Raychaudhuri noted inconsistency of Voting members term with the rooster which needs to be corrected. As the new ASHRAE logo was introduced, the minutes should also hold the new logo. John Murthy motioned to approve minutes with corrections. Asesh Raychaudhuri seconded the motion. The minutes were approved with revisions noted.

#### **Program Sub-Committee Report:** (Mark Colino)

Mark Colino announced that the current TC5.9 Program event status is:

##### **2013 Winter Meeting – Dallas, TX (Seminar abstracts & Forum proposals due Aug 13)**

DA1 (Seminar) – “Design Energy Efficiency for Jet Fans”; Chair: Greg Sanchez; Presenters: Robert Smith, Mark Colino, George Gamble; Co-sponsor: TC5.1

DA2 (Seminar) – “Sustainable Environment for Enclosed Vehicular Facilities & Related Design Guidance”; Chair: Anthony York; Presenters: Mohammad Tabarra, TBD; Potential Co-sponsor: TC2.8

DA3 (Forum) – “Boundary Conditions for Tunnel Ventilation Modeling”; Chair Tom O’Dwyer; Potential Co-sponsor: TC4.10

DA4 (Seminar) – “Aerodynamics and Ventilation in Vehicular Facilities”; Chair: Kai Kang; Presenters: TBD; Potential Co-sponsor: TBD

##### **2013 Annual Meeting – Denver, CO (Conference Papers due Sep 26; Seminar abstracts due Feb 2013)**

- DE1 (Seminar) – “Special Ventilation Issues in High-Speed Rail Tunnels”; Chair: Nadr Shahcheraghi; Presenters: Ian Ong, TBD; Potential Co-sponsor: TC5.1

- DE2 (Conference Paper Session) – “Ventilation Design for Road Tunnels Based on Risk Analyses”; Chair: Ahmed Kashef; Presenters: Alex Devs, TBD; Potential Co-sponsor: TC5.1
- DE3 (Conference Paper Session) – “Innovative Station Ventilation”; Chair: Kai Kang; Presenters: Tom O’Dwyer, Jeffrey Tubbs; Potential Co-sponsor: TC5.6

**2014 Winter Meeting – New York, NY (dates TBA)**

- NY1 (Conference Paper Session) – “Ventilation Shaft Spacing for High-Speed Rail Applications”; Chair: Nader Shahcheraghi; Presenters: TBD; Potential Co-sponsor: TBD
- NY2 (Conference Paper Session) – “Retrofit of Existing Tunnel Ventilation Systems”; Chair: Igor Maevski; Presenters: TBD; Potential Co-sponsor: TBD
- NY3 (Conference Paper Session) – “The Influence of Fire Protection Systems on Tunnel Ventilation”; Chair: Ian Ong; Presenters: TBD; Potential Co-sponsor: TBD

**2014 Annual Meeting – Seattle, WA (dates TBA)**

- SE1 (Seminar) – “Commissioning of Tunnel Ventilation Systems”; Chair: Nader Shahcheraghi; Presenters: Bill Lampkin, TBD; Potential Co-sponsor: TBD

**Future Program Topics**

- Can Wireless Control Improve Ventilation Performance (Champion: Steve Presser)
- Air Cleaning for Tunnels (Champion: Igor Maevski)
- Extreme Events Ventilation Requirements (Champion: Greg Sanchez)
- Tunnel Ventilation Velocity Profile on Egress Calculations (Champion: Ahmed Kashef)
- Matrix Development to Achieve LEED Certification in Station Design (Champion: Mohammad Tabarra)
- Best Practices for Enclosed Vehicular Facilities (Champion: Tom O’Dwyer)
- Construction Ventilation for Enclosed Vehicular Facilities (Champion: TBD)

**ASHRAE Journal Sub-Committee Report: (Thomas O’Dwyer liaison for ASHRAE Journal)**

Tom announced that no progress has been made since the last meeting.

**Handbook Sub-Committee Report: (Kai Kang). Summer 2014 approving date for the chapter.**

Assignment the team of reviewers is needed. Kai Kang said that 4 people volunteered to review the Chapter: George Gamble, Greg Sanchez, Paul Miclea and Kai Kang. The outline of the chapter was distributed among the 3 volunteers for their comments. Kai has received some comments on the table of contents from Greg Sanchez and from Paul Miclea. Conference call is planned after the TC meeting organized by Kai Kang. Kai Kang needs to establish the schedule for handbook development. The new chapter edition may need to address high speed train tunnels and sustainable design. It’s important to monitor changes in NFPA 130, and NFPA 502.

Anthony York volunteered to help with the HVAC for the new chapter.

Igor Maevski questioned if the High Voltage Cable Tunnels belong to the chapter on Enclosed Vehicular Facilities, or this subject shall be addressed in other chapters. Kai Kang felt that High Voltage Cable Tunnels are often part of the Enclosed Vehicular Facilities and shall be addressed in this Chapter.

**Research Sub-Committee Report: (Cameron J. McCartney for Ahmed Kashef)**

Currently we have 3 topics for the RTAR:

- #1. Pressure transient in rail tunnels and underground stations. Paul Miclea, Nader Shahcheraghi. The RTAR is ready to go forward and to be submitted.
- #2 Interaction of fans performance with fixed fire suppression system. Dr. Igor Maevski is responsible for this topic. We have received two proposals:
  - From George Hadjisophocleous (Canada)
  - From Haukar Ingason (Sweden). SP Technical Research Institute of Sweden wants to co-sponsor in the amount of \$25,000

The RTAR is very close for submittal with minor updates needed. Committee members to review the RTAR and provide their comments.

Other provisional research topics:

- #3. Sustainability rating of subway stations ventilation design. Dr. Mohamed Tabarra is responsible for this research topic. The intent is to create a matrix tool solid enough for sustainable design, which will be an indication on how sustainable design is monitored. A score system for sustainability will consider geographic location, ambient conditions, and HVAC design. One important criterion will be energy usage to achieve the thermal comfort. Research will assess LEED and other similar international programs with score points, stars. Mohamed sent preliminary info, but no costs and schedule. The next meeting will report on the progress.

### **Membership Sub-Committee Report: (Tom O'Dwyer)**

This meeting will be the last for George Gamble, Nader Shahcheraghi, Ian Ong and George Hadjisophocol as voting members.

Don Guan needs to be moved to the CM members per his request.

New Members:

Mike Keating and Bill Lampkin are becoming voting members as of July 1, 2012.

### **Website: (David Newman)**

David has the webpage up to date.

Web page: [www. tc59.ashraetch.org](http://www.tc59.ashraetch.org)

The importance to maintain the website and publish the minutes was highlighted.

### **Liaison Reports:**

TC 5.1 (Aresh Raychaudhuri)

A Successful Seminar "Energy Efficiency and Fan Efficiency Grade (FEG)" with great attendance was reported.

For Denver the TC5.1 is requesting for one Forum and two Seminars: Installation effect of airfoil centrifugal fans"; "Induced fans for laboratory exhaust systems" and "Improving fan efficiency – alternative methods"

TC5.6 (Josiah Wiley ~~No liaison~~). (Nader Shahcheraghi will be the TC 5.9 Liasion for TC 5.6) ~~volunteered to be a future liaison.~~

NFPA 130. (Igor Maevski)

The ROP meeting was held. The ROC meeting scheduled for September – October 2012

NFPA 502. (Igor Maevski)

The ROC meeting scheduled for October 2012 to be held in Miami (September 30 – October 4, 2012). The committee is looking for the comments on proposals.

PIARC. (Ahmed Kashef – not present)

Design Fire Report was published.

Vehicle emission report was published.

APTA. (Nader Shahcheraghi)

Nothing to report

Mining. (George Gamble)

14<sup>th</sup> Mining Symposium was held in the University of Utah with 81 papers presented from many countries. 3 field trips were offered to the participants. 21 exhibitors participated in the event. Papers can be found on the website of Utah University.

15<sup>th</sup> Mining Symposium is scheduled for June 2015 to be held in the Virginia Polytechnic

**Old Business**

None

**New Business and Comments:**

- Starting from July 1, a new Chairman of the Committee will be Greg Sanchez. Igor Maevski becomes a Vice-Chairman. Michael Keating becomes a Secretary

**Adjournment:**

Robert Smith made a motion to adjourn the meeting; seconded by Mark Colino. TC5.9 Chairman Robert Smith adjourned the meeting at 5:00 PM. Next meeting is scheduled for Dallas, TX on January 29, 2013.

*Recorded by Igor Maevski, TC5.9 Secretary*