

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
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TC/TG/MTG/TRG MINUTES COVER SHEET

(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/MTG/TRG No. TC 5.9 DATE January 26, 2016

TC/TG/MTG/TRG TITLE Enclosed Vehicular Facilities
DATE OF MEETING January 26, 2016 LOCATION Orlando, FL

VOTING MEMBERS PRESENT	YEAR APPT'D TERM ENDING -	VOTING MEMBERS ABSENT	YEAR APPT'D TERM ENDING -	EX-OFFICIO MEMBERS AND ADDITIONAL GUEST ATTENDANCE (CM) (G)
Igor Maevski Kevin Chang Jane Miller David Newman Bill Lampkin Robert Smith Andrew Louie John Murphy	2011-2016 2015-2019 2014-2018 2015-2019 2012-2016 2015-2019 2014-2018 2014-2018	Nader Shacheraghi Asesh Raychaudhuri	2014-2018 2015-2019	Yuan Li (CM) Ahmed Kashef (CM) Yoon J. Ko (CM) Jacob Carr (CM) Thomas Doebeli (CM) Troy Goldschmidt (CM) George Hadjisophocleous (CM) James McCarron (CM) Gustave Presser (CM) Jim Schick (CM) Dean Geraci (CM) William Bergeson (G) Dr. Anthony Brown (G) Duncan Phyfe (G) Joe Brooks (G) Darby Benroth (G) Marco Adolph (G)

DISTRIBUTION

All Members of TC/TG/MTG/TRG plus the following:

TAC Section Head:	Walter Grondzik
TAC Chair:	Kenneth Peet
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	
Manager Of Standards Manager Of Research & Technical Services	Stephanie Reiniche Mike Vaughn

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.
Technical Committee TC 5.9 – Enclosed Vehicular Facilities
Meeting Minutes – 26 January 2016 - Orlando, FL

Igor Maevski called the meeting to order at 3:30 pm.

There were 8 of 10 voting members present. The voting member attendance met requirements for a quorum.

Minutes of June meeting in Atlanta were distributed and approved.

Chair Comments

- Web site - TC minutes on file and updated
 - o great reviews on updated site, also mobile friendly
- Feb 8 abstracts due for St. Louis
- ASHRAE code of ethics
- Subcommittee members can participate in web meetings
- Please update your bio online
- Update roster
 - o Kevin Chang - will chair starting in Las Vegas
 - o Need to elect new secretary, voting member
- CEC
- Tracks for St Louis, Las Vegas
 - o Trying for section 5 track in Long Beach
- Upcoming conferences:
 - o ITSS Montreal Mar 16-18
 - o Tunnel Safety and Fire Projection April 7-8 Amsterdam

Section 5 - report presented by Ken Peet. (*Activity Report due January 26, 2016*)

Program Sub-Committee Report: (Andrew Louie for Mark Colino)

2016 Winter Meeting – Orlando, FL (Conference Paper Abstracts were due Mar 23, 2015; Conference Paper Submittals were due Jul 6, 2015; Seminar & Forum Proposals were due Aug 10, 2015)

None

Orlando Conference Tracks: Fundamentals & Applications; Systems & Equipment; Design Build; International Design; Standards, Guidelines and Codes; Cutting-Edge Technologies; the Great Debate (divergent methods for accomplishing the same task); Modern Residential Systems

2016 Annual Meeting – St Louis, MO (Conference Paper Abstracts were due Sep 21, 2015; Conference Paper Submittals are due Feb 15, 2016; Seminar & Forum Proposals are due Feb 8, 2016)

ST2 (Seminar) – “Indoor Air Quality Standard in Road, Rail and Mass Transit Tunnels”; Chair: Igor Maevski; Presenters: Yuan Li, David Newman, Mark Colino, Robert Smith; Co-sponsor: TC 4.10

St Louis Conference Tracks: HVAC&R Fundamentals & Applications; HVAC&R Systems & Equipment; Research Summit; Advances in Refrigeration Systems and Alternate Refrigerants; Smart Building Systems/Remote Monitoring and Diagnostics; Indoor Environment: Health, Comfort, Productivity; Professional Skills Beyond Engineering; Renewable Energy Systems and Net Zero Buildings

2017 Winter Meeting – Las Vegas, NV (Conference Paper Abstracts are due Mar 21, 2016; Conference Paper Submittals are due July 5, 2016; Seminar & Forum Proposals are due Aug 8, 2016)

LV1 (Seminar) – “Sustainable Environment for Enclosed Vehicular Facilities & Related Design Guidance”; Chair: Anthony York; Presenters: Mohammad Tabarra, TBD; Potential Co-sponsor: TC2.8
LV2 (Conference Paper) – “Innovative Rail Station Ventilation”; Chair: Mark Colino; Presenters: Tom O’Dwyer, Jim McCarron; Co-sponsor: TC5.6
LV3 (Seminar) – “Introduction to Enclosed Vehicular Facilities”; Chair: Tom O’Dwyer; Presenters: Tom O’Dwyer, Jim McCarron, David Newman; Co-sponsor: TBD
LV4 (Conference Paper) – “Parking Garage Ventilation”; Chair: Troy Goldschmidt; Presenters: TBD; Co-sponsor: TBD, possible combination with LV3
Las Vegas Conference Tracks: TBD

2017 Annual Meeting – Long Beach, CA

At this time, no Program events are scheduled for this meeting.

Long Beach Conference Tracks: 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)
Best Practices for Enclosed Vehicular Facilities (Champion: Tom O’Dwyer)
Tunnel Ventilation Velocity Profile on Egress Calculations (Champion: Ahmed Kashef)
Matrix Development to Achieve LEED Certification in Station Design (Champion: Mohammad Tabarra)
Platform Screen Doors (Champion: Greg Sanchez)
Natural Ventilation Applications in Enclosed Vehicular Facilities (Champion: Mark Colino)
BIM in Tunnel Ventilation Design (Champion: Igor Maevski)
Parking Garage Ventilation (Champion: Troy Goldschmidt)
Special Ventilation Issues in High-Speed Rail Tunnels (Champion: Ian Ong)
Boundary Conditions for Tunnel Ventilation Modeling (Champion: Tom O’Dwyer)
Ventilation Design for Road Tunnels Based on Risk Analyses (Champion: Ahmed Kashef)
Perspectives on Design-Build Projects (Champion: Mark Colino)

Standards Sub-Committee Report: (Yuan Li)

The new standard project committee (SPC) 217 **Non-Emergency Ventilation in Enclosed Road, Rail and Mass Transit Facilities**. The committee is seeking new members. Interested persons should contact Igor Maevski, David Newman or Kevin Chang.

- four conference calls have been held since the meeting in Atlanta
- Committee met from 8 to 12:50 earlier today
- Chapters 3 and 4 well underway
- Completed initial review of Chapter 3 completed today
 - Full review following additional conference call work earlier
- Conference calls will continue with conference calls before next meeting in St. Louis (tentatively Tuesday 7:00 AM to noon)
- Committee is seeking writers and reviewers; one voting member per company – but have additional non-voting members from same company; need mix of designers, mfg and owners
- Igor presented at BHR last September in Seattle; lots of interest from international contacts
 - No standard for non-emergency ventilation
- Next step – after approved internally, then ASHRAE and public review
- A web site has established for SPC 217: <http://spc217.ashraepcs.org>

Handbook Sub-Committee Report: (Andrew Louie)

Next update is scheduled for 2019; need complete by summer 2017 – to vote by summer 2018

- Rec'd revisions from Steve Presser and Mike Algarmur
- Troy Goldschmidt adding section on car parks

- Reviewers requested from design engineers, operating engineers and trade
 - Design Engineers - David Newman, Igor Maeoski
 - Manufacturer - Michael Feuser, Steve Presser
 - Operators – still need

- Add NFPA updates, high speed rail updates to the update.

Research Sub-Committee Report (Ahmed Kashef)

RTAR 1715 Pressure Transients in Rail Tunnels and Underground Stations

- vote to withdraw

not ready to proceed now; may be needed later for high speed rail
Motion David Newman, 2nd Andrew Louie

need to verify why withdrawing to RAC

- No high speed rail/Amtrak
- High speed rail in CA, no tunnels?
- Committee is not in position to find gaps in knowledge at the moment, but we believe there may be industry need at a later time
 - o When this was first proposed, we expected to see high speed rail in a few years' time; but that has been delayed
 - o There is some research worldwide, but still may be future gaps to review

From Wednesday, 1/27 meeting:

• **1690-WS**, *Performance of Ventilation and Fixed Firefighting Integrated Systems and Their Impact on Road Tunnel Resilience*; Responsible Committee: **TC 5.9** (Enclosed Vehicular Facilities); Co-Sponsors: None; Possible Outside Funding: FHWA - \$300k+; Estimated Duration: 14 months; Estimated Cost to ASHRAE: \$155,000; Status: **Returned with comments**. Federal Highway Administration (FHWA) may now take and fund project entirely as part of a larger effort with technical guidance and oversight provided by ASHRAE and NFPA.

Web Site: (David Newman) New website in use – easy to use, and mobile friendly.

Liaison Reports:

FHWA (William Bergeson)

- In charge of road tunnels for FHWA. Doing research – getting right the first time.
- At FHWA for 2 years; consultant for building tunnels prior
- Now looking at all aspects of road tunnels
- Inspection of tunnels now mandated for all states - looking for advice on when to inspect, maintain equipment, pull of service

TC 5.1 (John Murphy for Asesh Raychaudhuri)

TC 5.6 (George Hadjisophocieous for Josiah Wiley)

NFPA 130, 502 (Igor Maevski) NFPA 502 revisions/comments now available for review; substantial changes planned on critical velocity and noise

PIARC (Ahmed Kashef) guidelines for fire suppression to be provided; Paris conference every 4 years - must be recommended by your transportation group to attend

APTA - no update

NEW ROSTER effective after June meeting

- New secretary David Newman
- New voting members Troy Goldschmidt, Yuan Li

Adjournment Igor Maevski adjourned the meeting at 5:00 pm; seminar followed – see below

Next Meeting scheduled for St. Louis, MO - Tuesday, June 28, 2016.
Recorded by Jane Miller, TC 5.9 Secretary.

Seminar presented by Dr. A. Brown Brazilian Tunnel Standards 5 pm

- Dr. Anthony Brown presented on the topic of Tunnel Standards in Brazil.
 - o very informative presentation, following by question and answer session
 - o we hope to see Dr. Brown at future TC 5.9 meetings; this was an excellent addition to our meeting