



## ASHRAE Technical Committee 5.6

### MINUTES

TC 5.6 Control of Fire and Smoke  
Saturday, June 13, 2020

Virtual Meeting

#### ATTENDANCE

Voting Members Present	Voting Members Absent	Additional Attendance	
John Klote	None	Yoon Ko	James Garlin
Paul Turnbull		Valentina Nedelcu	Larry Smith
Matt Davy		Larry Felker	Kim Clawson
Jim Buckley		Amir Jokar	Jeronimo Santos
Yuan Li		Ahmed Kashef	Anil Kapahi
Peter McDonnell		Gerald Kettler	Hassan Tariq
		Rajendera Kapoor	Brandon Ingram
		Donald Hardin	Jane Miller
		Greg Sanchez	
		Dimitry Kogan	
		David Branson	
		Aaron Gunzner	

#### IDENTIFICATION OF VOTING MEMBERS

Voting members in attendance are as follows: John Klote, Paul Turnbull, Matthew Davy, Jim Buckley, Yuan Li, and Peter McDonnell. None of the non-quorum members were in attendance. A quorum was present, 6 of 6 voting members were in attendance.

#### CHAIRMAN'S REMARKS

Roster: The current roster for TC 5.6 is in effect until after the virtual conference. After the virtual conference, all ASHRAE rosters (including TC 5.6 roster) will roll over to 2020-2021 rosters.

Upcoming Deadlines: Seminar and Forum proposals for Chicago are due by Monday, August 3, 2020.

ASHRAE Code of Ethics: "As members of ASHRAE or participants in ASHRAE activities, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct. We will avoid conflicts of interest, and behavior that is discriminatory and/or harassing." There is more about our code of ethics on ASHRAE website.

## APPROVAL OF MINUTES FROM FEBRUARY 2020

A motion was made and seconded to approve the minutes of the TC 5.6 meeting on February 3, 2020. The motion was unanimously accepted.

## SUBCOMMITTEE REPORTS

### ***Research – Matt Davy (Paul Turnbull)***

Jensen Hughes updated the TC 5.6 committee on the work that has been completed so far on RP-1644. Most of the progress is in preliminary work (setting up the model, grid sensitivity analysis, selection of certain parameter values, etc.). Brendon Ingram from Jensen Hughes provided a short presentation to report the progress on the numerical modelling set-ups.

There is currently no new RTAR/WS under development.

### ***Program – Valentia Nedelcu***

Valentia discussed existing program plans, and worked with the committee to develop the plans further. For details of the program plan, see Appendix A.

### ***Handbook Subcommittee Report – John Klote***

Our handbook chapter was in the 2019 HVAC Applications Handbook. We are starting effort for the 2023 handbook. Our chapter in the 2019 handbook was very extensively reviewed and revised. For these reasons, I expect the changes to the next chapter will be minor. I will ask for a few reviewers of the current chapter.

### ***Standards – Jim Buckley***

Jerry Kettler indicated that SSPC 3000 will be wanting input from TC 5.6 regarding possible changes to ASHRAE Guideline 1.5, *Commissioning Smoke Management Systems*. When SSPC 3000 wants such information, Peter McDonnell and Paul Turnbull volunteered to study Guideline 1.5 and make recommendations to TC 5.6.

### ***Membership – Larry Felker***

The existing TC 5.6 roster contains some obsolete entries:

1. Some emails and phone numbers are no longer valid.
2. Some who have retired or who have moved to another part of our industry and have requested that they be removed.
3. Several who have passed away.

While contacting members phone numbers and email addresses have been updated where possible.

The existing list had 120 names on it. After culling the list there are 92 members. All now on the proposed list have confirmed they are active and interested.

An excel file generated from the ASHRAE website was updated and submitted for the chairman to consider.

### ***TC 5.6 Web Site – Duane Smith***

(Note: Duane Smith sent John Klote an email indicating that he was unable to attend this meeting, and he sent the following report.)

1. According to ASHRAE: "The purpose of the ASHRAE TC website is twofold: to support and update the TC membership and to inform outside audiences about the TC's contributions to ASHRAE."
2. One TC 5.6 member commented that the website needs better organization. Duane agrees and welcomes any recommendations for additional improvements.
3. Duane's question for the committee: what would you want to see in a well-organized website? He looks forward to making our website serve its intended purpose.

***Smoke Management Software Report – Bill Webb/John Klote***

The TC 5.6 software is AtriumCalc. AtriumCalc is an application that can be used to analyze atrium smoke control systems. This application can be downloaded from ASHRAE for people who have purchased the ASHRAE Handbook of Smoke Control Engineering. The good news is that no bugs have been discovered in the software.

***Handbook of Smoke Control Engineering – John Klote***

The work on the next version of the ASHRAE Handbook of Smoke Control Engineering is about 80% complete. Our goal is to have a complete draft of next handbook to TC 5.6 before the Chicago meeting.

***ASHRAE Smoke Control Courses – John Klote***

In Orlando, it was stated that there is a need for smoke control courses. The courses that are needed are:

- Pressurization Smoke Control
- Network Analysis for Smoke Control
- Atrium Smoke Control

I attempted to contact the ASHRAE Learning Institute about this, but there was no response from the 2 email addresses I have for them. This is understandable in these unusual times.

I will contact the ASHRAE Learning Institute when things settle down.

**INTER-SOCIETY LIAISON REPORTS*****CIBSE (Chartered Institute of Building Services Engineers) – Liaison needed***

There was no report.

***NFPA 80 & 105 (Standard for Fire Doors and Fire Windows) – Duane Smith***

(Duane Smith emailed the following report to John Klote.)

The 2022 editions of both NFPA Standards 80 and 105 are currently being developed.

- The First Draft Report was published in February 2020. Public Comments on the First Draft Report were accepted through May 6, 2020.
- Next step: Second Draft Meeting scheduled for October 6-8, 2020, 10 am – 2:30 pm (EST) each day. The meeting will be held via web/teleconference.  
Purpose of the Second Draft Meeting:
  - The NFPA TC will review the First Draft and may propose additional revisions to the Standards.

- All Public Comments will be considered, and the TC will provide an action or response to each one.
- The product of this meeting will be the Second Draft Report.

***NFPA 90A (Air Conditioning and Ventilating Systems) – Jim Buckley***

There has been no recent activity.

***NFPA 92 (Smoke Management) – Paul Turnbull***

NFPA Smoke Management Committee met by conference call on March 23 to discuss Second Revisions to NFPA92 and NFPA204.

One issue of interest specific to TC5.6 is that the result of RP-1600 - Method to Increase Maximum Velocity of Make-up air for Atrium Smoke Control, is being added to NFPA92. This is in the form of an equation that can be used to calculate the additional smoke production that results from makeup air in excess of 200 fpm (1 m/s).

There is a big revision that touches the whole document, to add dual units to the standard. I spent many days checking the conversions, and found many errors. I contacted NFPA staff to see if math errors can be corrected editorially, but they replied that they could not be. As a result, I will be voting against the Second Revision to add dual units because I believe it is better to have the engineer do the conversion themselves rather than publish incorrect conversions.

***AMCA – Aaron Gunzner***

Articles:

- “Field Modifications of Life-Safety Dampers,” AMCA inmotion, 2020 (in progress).
- “Air Movement and Control Association: Code Required Periodic Testing of Life Safety Dampers,” Snips, October 2019.
- “Remote Periodic Testing of Life-Safety Dampers,” AMCA inmotion, Sept 2019.

Webinars:

- “2018 International Building Code (Life Safety Damper Section 717) Overview,” May 14, 2020.
- “Design Tips for Fire and Smoke Barriers,” April 30, 2020.

Free Industry Session:

- “Remote Periodic Testing of Life-Safety Dampers,” 2020 International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo), Orlando, Fla., Feb. 4, 2020.
  - There were 51 attendees.

Other:

- Life Safety Services has asked AMCA members to help them develop a certification program for Life Safety Damper Inspectors.
- AMCA committees continue to monitor and participate in code and standard development such as IBC, IFC, ASHRAE, and NFPA.

***Underwriters Laboratories – Aaron Gunzner***

UL has been relatively quiet in regard to fire and smoke dampers lately.

- There is one proposal for UL Standard 555C, Ceiling Radiation Dampers. It is basically requesting that Dynamic Ceiling Dampers can be tested for airflow in one direction (airflow up or down) only and have appropriate airflow directional labels applied to them. Currently Dynamic Ceiling dampers have to be tested for airflow in both, up and down, directions. Currently it is just in the discussion stage of the process.
- UL Factory audit inspections have moved to being remote due to the pandemic.

**SFPE – Matt Davy**

- The Annual conference is rescheduled in Nov. 2020 in Atlanta.

**SMACNA – Delaine Deer (absent)****OLD BUSINESS**

None

**NEW BUSINESS**

Larry Smith made a report to the committee. After the virtual conference, Larry will no longer be our section head. A number of attendees expressed disappointment. However, the good news is that Larry will be the Vice Chair of TAC followed by becoming the Chair of TAC.

There were questions about how people become corresponding members of TC 5.6, and the process was discussed.

**ADJOURNMENT**

The meeting was adjourned at 3:19 PM.

## Appendix A

### TC 5.6 Program Subcommittee Report Virtual Meeting –June 13, 2020

#### 1. Current Meeting Programs:

##### Austin

For Austin conference a Conference Session on “Fire Safety Challenges for Green Building Features was planned with 3 abstracts submitted by Yoon Ko, Dahai Qi, Leon Wang. Not all papers were submitted or accepted.

Dahai Qi paper was accepted “A Novel Ventilation Approach of Large Vertical Space for Achieving Fire Safety and Energy Efficiency (VC-20-A005) and will be presented as part of Paper Session 19, on Monday, June 22, 2020 at 8:00AM

#### 2. Updates from CEC

##### Future Conferences

Year	Winter	Annual
2021	Jan 23-27 – Chicago, IL	June 26–30 – Phoenix, AZ
2022	Jan 29- Feb 2, Las Vegas NV	June 25-29- Toronto, ON
2023	Feb 4-8, Atlanta, Georgia	June 24-28, Tampa Bay

- **Chicago** Winter Conference, January 2021

##### **Deadlines:**

**Monday, June 15, 2020:** Website Opens for Seminar, Workshop, Forum, Debate, and Panel Proposals

**Wednesday, July 8, 2020:** Final Conference Papers Due - Submitted for Review (Includes Bio, Learning Objectives and Methods of Assessment); Request for Conference Paper Sessions Due

**Monday, July 27, 2020:** Conference Paper Accept/Revise/Reject Notifications

**Monday, August 3, 2020:** Website Closes for Seminar, Workshop, Forum, Debate, and Panel Proposals

**Monday, August 10, 2020:** Revised Conference Papers/Final Technical Papers Due

**Monday, August 24, 2020:** Conference and Technical Paper Final Accept/Reject Notifications

**Monday, October 5, 2020:** Seminar, Workshop, Forum, Debate, and Panel Accept/Reject Notifications

**Tracks:**

1. HVAC&R Fundamentals and Applications
  2. Systems and Equipment
  3. Refrigeration and Refrigerants
  4. Environmental Health Through IEQ
  5. Building Performance and Commissioning for Operation and Management
  6. Energy Conservation
  7. International Design
  8. Standards, Guidelines and Codes
  9. Mini-track based on Chuck Gulledge Presidential Theme( to be announced and not accepting papers)
- **Phoenix Annual Meeting, June 26-30, 2021**

**Deadlines**

**Wednesday August 12, 2020:** Conference Paper Abstracts, Technical Papers, and Paper Session Requests Due

**Friday August 28, 2020:** Conference Paper Abstract Accept/Reject Notifications

**Wednesday December 2, 2020:** Final Conference Papers and Request for Conference Paper Sessions Due

**Monday January 4, 2021:** Conference Paper Accept/Revise/Reject Notifications

**Wednesday January 6, 2021:** Website Opens for Seminar, Workshop, Forum, Debate, and Panel Proposals

**Wednesday January 13, 2021:** Revised Conference Papers/Final Technical Papers Due

**Monday February 8, 2021:** Program Submissions Due / Extended Abstracts Due

**Thursday February 18, 2021:** Conference and Technical Paper Final Accept/Reject Notifications

**Friday March 19, 2021:** Program Submissions Accept/Reject Notifications

**Tracks:**

1. Fundamentals and Applications.
  - Track Chair Sonya Pouncy, [sonyapouncy@gmail.com](mailto:sonyapouncy@gmail.com)
2. HVAC & Systems and Equipment.
  - Track Chair. Rupesh Iyengar, [rupesh\\_iyengar@yahoo.com](mailto:rupesh_iyengar@yahoo.com)
3. Research Summit.
  - Track Chair. Kristen Cetin, [cetinkri@msu.edu](mailto:cetinkri@msu.edu)
4. Professional Development.
  - Track Chair. Marites Calad, [mcalad@norman-wright.com](mailto:mcalad@norman-wright.com)
5. Design, Control, and Operation of Critical Environments.
  - Track Chair. Raul Simonetti, [raul.simonetti@carel.com](mailto:raul.simonetti@carel.com)

6. HVAC&R for Indoor Plants & Animals.
  - Track Chair. Ryan MacGillivray, ryan.macgillivray@dwel.com
7. Future Proofing Renewable, Regenerative, and Resilient.
  - Track Chair. Andy Cochrane, acochrane@industrialairinc.com
8. Hot Hot Hot, the world is warming.
  - Track Chair. Nohad Boudani, nohadb@inco.com.lb
9. Mini track. To be announced.

### **3. Future Meeting Programs:**

#### **Chicago**

**Seminar.** Life Safety Dampers, Back to Basics.

Chair: Paul Turnbull

Speakers: Dane Carey, Larry Felker

Presentations:

1. What are Life Safety Dampers? Dane Carey.
2. Basic Wiring and Control of Life Safety Dampers. Larry Felker
3. Testing and Installation of Life Safety Dampers. Dane Carey

#### **Other Future Conferences**

We have a number of topics proposed that we maintain on our list for future programs that were updated during the meeting.

- Getting Started at Atrium Smoke Control Design. John Klote
- Elevator Shafts, Methods of Testing for Leakage. Gary Nelson (Energy Conservatory) No updates, Gary was not present at the meeting.

During the meeting 2 new topics were proposed.

- With increased focus on Building Energy Efficiency resulting in tighter building envelopes do the new features affect Smoke Management and how. With increased airtightness an increase in smoke pressure is expected. In this scenario is the minimum pressure difference requirement to protect stairwells or any evacuation route or shelter in place.

Topic proposed by Yoon Ko.

Yoon also offered to prepare a review paper to discuss articles/journals published over the past 2-3 years on the topic.

- How Glazing Separations in atrium, around elevator shafts are affecting Smoke Management of the space.

Impact on the vertical smoke rise ventilation when the glazing is not protected and when glazing is protected. Are any studies done to assess if glazing is different from other materials used for partitions, and how. The general assumption is that the walls remain standing, is glazing true to that assumption.

Topic proposed by Greg Sanchez.