

# TC 9.01 - Large Building Air Conditioning Systems

Tampa Annual Conference 2023

## Program/Handbook/Research Subcommittee

Tuesday, June 27 12:00 PM – 1:00 PM EDT

JW Marriott Ashley (3)

**Note: Not in same room!**

## Main Meeting

Tuesday, June 27 1:00 PM – 3:00 PM EST

JW Marriott Ashley (4)

Hybrid

Meeting ID: 236 512 9226

Passcode: TC9.1

## MEETING MINUTES

Call to Order – Mark Fly 1:03pm

### 1) Welcome / Introductions - everyone introduced themselves.

Mark Fly	Chair	Voting
Douglas Cochrane	Vice Chair	Voting
Phillip Trafton	Secretary	Voting
Charles Henck	Standards	Non-voting
John Kuempel	Research	Non-voting
Jay Eldridge	Handbook	Voting
Elizabeth Primeau	Webmaster	Non-voting
Kelley Cramm	Member	Voting
Mark Pavol	Member	Voting
R Lee Millies	Standards	Non-voting
Dennis Wessel	Program	Non-voting
Alonzo Blalock		Non-voting
Stephen Duda		Non-voting
John Vucci		Non-voting
William Klock		Non-voting
Mehdi Jalayerian		Non-voting
Craig Messmer	TAC Chairman	Non-voting
Vicent Tang	GUEST	Non-voting
Peter Maus	GUEST	Non-voting

### 2) Administrative

- a. **ASHRAE Code of Ethics** - In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity, and respect for others, and we shall avoid all real or perceived conflicts of interests.  
(<https://www.ashrae.org/aboutashrae/ashrae-code-of-ethics>.)
- b. **Scope** - TC 9.1 is concerned with the general design concepts of the HVAC systems that are utilized for the conditioning of large buildings, including the integration of components into centralized and decentralized systems.

### 3) Determination of Quorum - **yes**

- a. Voting Members = 7 Member
    - i. Fly, Mark
    - ii. Cochrane, Douglas
    - iii. Trafton, Phillip
    - iv. Eldridge, Jay
    - v. Cramm, Kelley
- |                    |
|--------------------|
| Chair              |
| Vice Chair         |
| Secretary          |
| Hndbk Subcom Chair |
| Member             |

- vi. Pavol, Mark                      Member
- vii. Warren, Ken                      Member (**absent**)
- b. Non-Voting Subcommittee Chairs
  - i. Wessel, Dennis                      Program Subcom
  - ii. Kuempel, John                      Resrch Subcom
  - iii. Henck, Charles                      Stds Subcom
  - iv. Primeau, Elizabeth                      Webmaster

#### 4) Review and Approve Minutes from 2023 Winter Meeting

- a. Kelley move to approve, Doug seconded
- b. Unanimous, CNV

#### 5) Agenda Comments and Updates

No comments.

#### 6) Chair Comments and Section 9 Report from Brad Cochran

- a. CEC has setup a process where new members can get a free registration to a conference; details to be sent out.
- b. New electronic roster plan; replacing old system as of Chicago 2024
- c. TAC is working on balance in all of the TCs; Brad does it with a spreadsheet with names, companies; ASHRAE wants it formalized; **members should update bio to include "discipline".**
- d. Get your activity form in! 23 A-1
- e. Tara is sending out updated rosters
- f. Initiative: ISI is now Global Technical Interaction Committee (GTIC); comparing stds, working in conjunction; starting with ISO stds, ISO TC2.5 building Env Design, TC163 thermal perf and energy design, TC86 ref and AC, ISO TC142 cleaning equipment for air; **lets us know if any are conflicting in your experience**
- g. Handbook: applications handbook has doubled in size, they are looking at reducing it (duplicate info, out of date), if not then they will do 2 volumes.
- h. TC9.12: they are looking at a special track for tall building in Chicago; interest in presenting?
- i. Certificate of appreciation for Mark Fly! 😊
- j. Doug: decarb guidelines before annual meeting 2024; Alice Yates presented GAC information
- k. **Doug to send EP information to post on the website**

#### ASHRAE Liaison Reports:

- I. Society (e.g., TAC, Standards, Research, Handbook)

#### 7) TC 9.1 Membership 2023-24

- a. Voting Members = 7 Voting Member
  - i. Trafton, Phillip                      Chair (VM)
  - ii. Warren, Ken                      Vice Chair (VM)
  - iii. Schultz, Madison                      Secretary (CM)
  - iv. Eldridge, Jay                      Hndbk Subcom Chair (VM)
  - v. Wessel, Dennis                      Program Subcom (New VM)

- vi. Cramm, Kelley                      Member
  - vii. Pavol, Mark                      Member
  - viii. Millies, Lee                      Member (New)
- b. Non-Voting Subcommittee Chairs
- i. Kuempel, John                      Resrch Subcom
  - ii. Henck, Charles                      Stds Subcom (need new Standards Chair)
  - iii. Primeau, Elizabeth                      Webmaster

## 8) TC Subcommittee Reports:

- a. Handbook – Eldridge
  - i. Working on chapters for 2024 book
  - ii. Two chapters were emailed yesterday to VM and frequent attendees
  - iii. JK: chapter not ready
  - iv. Get the first few approved
  - v. Deadline: Phil T., Ken W., and John K. **late July deadline; July 31<sup>st</sup> 2023 submitted**
  - vi. Motion to approve chapter 1 and chapter 4 from Eldridge
    - 1. Comment: we would like to make small edits after vote (not content related)
    - 2. Unanimous, CNV
    - 3. Note from Mehdi: **issue with underfloor section;**
      - a. **Dennis Wessel and Charlie Henck to work on this with Mehdi**
      - b. **Jay to hold on sending this in**
      - c. **Mention applicable Design Guides and O&M manual**
  - vii. We will approve the other chapters by email.
- b. Research – Kuempel
  - i. No report.
- c. Standards – Henck
  - i. We are responsible for Guideline 16: Selecting Outdoor, Return and Relief Dampers for Air-Side Economizer Systems – reaffirmed May 2018.
  - ii. ASHRAE Guideline 34-2019 Energy Guideline for Historic Buildings. TC 7.6 is being asked to recommended revision, reaffirmation, or withdrawal of Guideline 34-2019. The 2019 version shows 9.1 as the cognizant TC? Sheila J. Hayter was the GL Chair.
    - 1. We are not responsible for this anymore; 7.6 is taking over.
  - iii. What standards can be made more international?
    - 1. Not applicable at this time;
- d. Honors and awards – Need Chair
  - i. Still need a chair
  - ii. Any candidates for Fellow?
- e. Website – Primeau
  - i. No report.
- f. Programs – Wessel
  - i. Chicago 2024:
    - 1. Kelley and Phil to do forum
    - 2. Ken Warren to do a seminar on challenges pet relief area
    - 3. Potential co-sponsor with 9.12 on tall buildings

4. Forum discussed, Phil Trafton on Title 24; input from Controls company
- ii. Vegas 2026:
  1. Reducing water in building; no cooling towers.
- iii. Tampa 2023:
  1. Forum: System options in Evaporative cooling prohibited locations.  
Chair – Dennis Wessel (Forum 3, Monday, June 24, 9:45 to 10:45 AM)
  2. Forum: Special design challenges in large and tall multi-family buildings  
Chair – Dennis Wessel (Wednesday, June 28; 9:45 – 10:45 AM)
- iv. Other topics:
  1. Does solar and/or wind energy have a role in large building systems?  
Co-sponsorship with TC-9.12 Tall Buildings – under 10 stories and requires battery storage.
  2. Title 24 requires 35% of roof area contain solar panels.
  3. Special challenges in grow facilities. Contact the Agricultural TC for co-sponsorship.
  4. HVAC System under sizing: How much is too much?
  5. Large system multizone control options.

## 9) TC/PC Liaison Reports

- a. TC 4.03 – Ventilation & Filtration
  - i. Duda: very old parking garage ventilation standard; this will be re-done.
  - ii. Duda: aerosol research into contaminant migration;
  - iii. No report
- b. TC 5.1 – Fans (Eldridge)
  - i. No report
  - ii. No report
- c. TC 5.7 – Evap cooling
  - i. Outlawed in Vegas
  - ii. Mark Pavol: looking to follow up on forum/discussion
  - iii. Mark Pavol: discussion about disease transmission are mitigated with higher RH, how to get involved in that
  - iv. Mark Pavol: standards for testing evap coolers
- d. TC 7.09 – Building Commissioning (Blalock)
  - i. Blalock: listened in
    1. DOE has established criteria for certifications for CX that is in the process of updating the list of criteria that organizations have to follow; no changes are likely.
- e. TC 9.08 – Specialized Building Applications (Molnar)
  - i. Molnar absent
- f. TC 9.09 Mission Critical - (Mark Pavol)
  - i. Pavol: discussion about performance parameters (too easy to game?), looking at better ways to do that
  - ii. Pavol: no one reads past the first psychrometric chart; but they should.  
Discussion around expanding the acceptable range.
- g. TC 9.10 – Laboratory Systems (Cramm/Henck)

- i. Cramm: updating laboratory design guide in progress
  - ii. Cramm: there is a research project: compared and characterize the geometry of the plume of air leaving lab discharge; contractor hired to work on this and test it.
  - iii. Pavol and Cramm to discuss this offline.
- h. TC 9.12 – Tall Buildings (Wessel)
  - i. Wessel: looking at changing their scope slightly
  - ii. Wessel: stack effect definitions don't align, need to check
  - iii. Track for Chicago: 6 or 7 programs
- i. SSPC 15 Mechanical Refrigeration Safety (Vucci)
  - i. Mark Fly went to it: lots going on with new refrigerants; significant update coming. Split systems and VRF??
- j. SSPC 62 Ventilation (Trafton)
  - i. Phil did not make it; keep it on the list.

**10) Old Business**

**11) New Business**

- a. Development of a Vision... our emphasis on Research, Programs and Handbook?
- b. Any research to be done?

**12) Next Meeting – Chicago, IL - January 23<sup>rd</sup>, 2024**

**13) For Good & Well Being**

**14) Adjourn @ 2:41PM**