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**DRAFT 1**

## 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 1.9 \_\_\_\_\_ DATE \_\_\_\_\_ 6/28/2023 \_\_\_\_\_

TC/TG/MTG/TRG TITLE \_\_\_\_\_ Electrical Systems \_\_\_\_\_

DATE OF MEETING \_\_\_\_\_ 6/27/2023 \_\_\_\_\_ LOCATION \_\_\_\_\_ Tampa, FL / Hybrid – Teams \_\_\_\_\_

MEMBERS PRESENT (VM's in <b>bold</b> )	YEAR APPTD	MEMBERS ABSENT (VM's in <b>bold</b> )	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
<b>Daryl Collerman</b> (Teams)	2019	<b>Zach DeLuke</b>	2022	Jim Earley (Guest)
Stephen Duda (PCM)	2023	<b>Robert Helt (MNQ)</b>	1994	Tom Pollard (Guest)
Steven Faulkner (Teams)	2006	Abiodun Abiola (PCM)	2021	Corey Metzger (Section Head)
<b>Randall Higa</b>	2016	Ala'a Mohammed Abu Shawish (PCM)	2023	
Jamie Lian (PCM)	2023	Ibrahim Assi (PCM)	2022	
Larry Markel (Teams)	1997	Jacob Edmondson (PCM)	2022	
Farhad Omar (PCM)	2023	John Houdek (PCM)	2022	
<b>Frank Pucciano</b>	2001	Scotty Hutto (PCM)	2022	
<b>Steve Rosenstock</b>	2005	Kyle C Mullins (PCM)	2023	
<b>Michael S. Todd</b>	2011	Timothy O'Leary (PCM)	2022	
		Beatriz Salazar (PCM)	2021	
		Gerardo Alfonso	2017	
		Ricson Chude	2017	
		Robert Crosby	2004	
		Chad Dorgan	2000	
		Charles Frazell	1997	
		Armin Hauer	2011	
		Joseph Lunsford	1995	
		Ken Luther	1990	

		Ram Narayanamurthy	2013	
		John Nix	2007	
		Glenn Remington	2017	
		John Richardson Jr.	2007	
		Pavithra Santhanam	2018	
		Colleen Smith	1994	
		Leo Stambaugh	1994	
		John Stoops Sr.	2003	
		Marvin Thedford Jr.	1990	
		Gary Throckmorton	2000	
		Russ Tiffany	1998	
		Marija Todorovic	2005	
		William Warren Jr.	1983	
<b>DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:</b>				
TAC Section Head:		<a href="mailto:SH1@ashrae.net">SH1@ashrae.net</a>		
All Committee Liaisons as Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)		<a href="mailto:TACchair@ashrae.net">TACchair@ashrae.net</a> <a href="mailto:CTTC1@ashrae.net">CTTC1@ashrae.net</a> <a href="mailto:RL1@ashrae.net">RL1@ashrae.net</a> <a href="mailto:HBS3@ashrae.net">HBS3@ashrae.net</a> <a href="mailto:SL1@ashrae.net">SL1@ashrae.net</a>		
Mike Vaughn, Manager of Research & Technical Services		<a href="mailto:MORTS@ashrae.net">MORTS@ashrae.net</a>		

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

## 1. CALL TO ORDER

### Introduction of Members and Guests

Technical Committee 1.9 was called to order at 3:30 PM (EDT). Technical committee member introductions were made both in person and online. Absent members are identified on the cover sheet.

Frank Pucciano, Chair, reviewed the membership list and determined that a quorum was present (5 of 6 VMs). Frank reviewed with everyone the ASHRAE code of ethics, which is presented on the agenda.

## 2. APPROVAL OF MINUTES AND REVIEW OF ACTION ITEMS

**Motion: Steven Rosenstock/Geraldo Alfonso 5-0-0-1-CV** – Steve Rosenstock made a motion to approve the February 2023 hybrid meeting minutes (Draft 3) as distributed with a second from Randall Higa. There was no additional discussion and the motion passed unanimously.

### Report Action Items:

None.

## 3. TC MEMBERSHIP AND COMMITTEE APPOINTMENTS

Since the 2023 winter meeting, there were four provisional corresponding members (PCM) added to the roster.

- Ala'a Mohammed Abu Shawish
- Stephen W Duda
- Kyle C Mullins
- Farhad Omar

Welcome to all the new PCMs and thank you Stephen and Farhad for attending today's TC meeting! The FY24 roster shows the accurate changes submitted after the winter conference. The committee will have a total of seven VMs. After this summer's meeting, Frank and Robert Helt (MNQ) will roll off as VM. Geraldo will roll on as VM since he will become chair and Larry also rolls on as VM. John Nix will be our MNQ. Beatriz Salazar will take over our handbook as a CM.

## 4. CHAIR REPORTS: Frank Pucciano

See appendix I for notes from TC chair's breakfast meeting and for CEC notes. Frank went over some highlights. This meeting was quite different from previous years as the early part of the meeting were several presentations and then they gave Handbook training (hoping to increase interest); however, no one knew to ask Handbook subcommittee chairs to attend this meeting.

Basecamp is not updating new members automatically. Tom shared information that the chair can add them to our basecamp. Tom will show Frank how to add members after the meeting.

**Up and coming meetings:** Chicago, IL – January 20 to 24, 2024

## 5. SUBCOMMITTEE REPORTS

### a. Standards: Steven Rosenstock

#### ASHRAE

**\*\*ASHRAE is pushing as many standards out the door as quickly as possible!**

90.1 – Old chair is retiring and new chair (Dick Lord) taking over. Working on 2025 version and branching into new things like EV charging. Focusing on net zero emissions focus (addendum L – informative appendix).

90.2 – Residential, carbon emissions now part of that standard along with new addendum for EV charging. 2023 version by fall.

90.4 – Data centers, publishing in 2023, 50% reduction in carbon emissions.

100 – Existing buildings, addendum K coming July 7 and adding carbon to the standard.

189.1 – Green commercial buildings, electric ready, addendum AC, publish by fall.

227 – Passive buildings, out soon?

228 – Published, measuring net zero energy & carbon.

240P – Building life cycle emissions standard.

241P – From May 16, 2023:

See below – there were two opinion pieces in today's Washington Post (print edition) that highlighted the new CDC recommendations and ASHRAE Standard 241P.

(Will or should this will have any impact on ASHRAE 62.1, 62.2, 90.1, 90.2, 90.4, 100, 189.1, 189.3, 228, etc.?)

<https://www.washingtonpost.com/opinions/2023/05/15/cdc-guidance-indoor-air-quality-goal/><<https://www.washingtonpost.com/opinions/2023/05/15/cdc-guidance-indoor-air-quality-goal/>> Authors: Washington Post Editors. Excerpt:

“The CDC previously recognized the importance of improving air quality, but on Friday the public health agency published revised guidance that for the first time prescribed a specific target of five air exchanges per hour. This means supplying, or exhausting, the amount of air in a space five times over the course of an hour. The target can be met in different ways — with a combination of outside air and improved filtration and ventilation. While the new target “will not guarantee totally safe air in any space,” the CDC says “it reduces the risk of exposure to germs and other harmful air contaminants.”

Likewise, most buildings in the past were equipped with filters known as MERV-8 that are designed to protect equipment and capture about 20 percent of airborne particles. The CDC has now called for buildings to install MERV-13 filters that can capture 80 to 90 percent of particles. Also significant, the standard-setting American Society of Heating, Refrigerating and Air-Conditioning Engineers has completed and published a draft of its first-ever standard for maintaining healthy indoor air quality, with a final draft due this summer.”

<https://www.washingtonpost.com/opinions/2023/05/15/cdc-indoor-air-ventilation-recommendation-ashrae/><<https://www.washingtonpost.com/opinions/2023/05/15/cdc-indoor-air-ventilation-recommendation-ashrae/>>

Author: Joseph G. Allen is an associate professor and director of the Healthy Buildings program at Harvard University’s T.H. Chan School of Public Health. He co-wrote “Healthy Buildings: How Indoor Spaces Can Make You Sick — Or Keep You Well.”

Excerpts:

“We might be on the verge of an indoor air quality revolution, and it could be among the most important public health victories of the 21st century.

Two events in the past few days have contributed to this moment: First, the Centers for Disease Control and Prevention on Friday released a new health-based ventilation target that can dramatically improve indoor air. Shortly after, a less well-known but powerful standard-setting organization called the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) boosted the CDC’s recommendations by releasing its own enhanced ventilation standard, open now for public comment.”

“Kudos are due. When Rochelle Walensky took over the CDC in early 2021, ventilation started to appear on the agency’s website as key to addressing the coronavirus. She ultimately approved the latest targets. The White House team, in particular the Coronavirus Task Force led by Ashish Jha and the Office of Science and Technology Policy, also elevated the issue and held a summit on indoor air quality last fall, signaling that it was a top priority.

That signal was heard, as ASHRAE’s response shows. The industry group had previously recommended low ventilation rates for schools, offices, homes and other places you spend most of your time.

Its course correction is necessary and in line or higher than what the Lancet Covid-19 Commission recommended. The specifics will likely change after the public comment period is up, and there are important questions it will need to address. For one, ASHRAE now has three guidance documents that are not fully aligned. Its previous standard for health-care settings recommended four to six ACH, and its guidance for schools released this winter recommended three to six. Its most recent recommendations call for roughly the equivalent of 24 ACH for

hospitals and eight ACH for schools. (It used a different but related metric that I converted to ACH for comparison purposes.)

In one important aspect, ASHRAE's proposed standard doesn't go far enough. It differentiated between "risk mitigation mode" and "normal mode," meaning that its standard to improve indoor air would apply only during undefined "high-risk" periods. Because the proposal is framed that way, it's unlikely it will get into building codes as standard practice going forward; it will be reactionary. This isn't ideal. Don't we want cleaner indoor air at all times? Why not apply higher standards to every new building and every new renovation?"

#### IECC

-IECC round 2 comments are due June 30.

#### Federal Government

-DOE is updating appliance standards, transformers (may amplify supply chain issues), and pool heaters.

#### **b. Research: Larry Markel**

Larry was unable to attend the research breakfast so there was no specific update for this meeting. In general, Larry would like anyone to submit any research ideas to him. We have co-sponsored several projects in the past. Larry will help write the RTAR and help coordinate co-sponsorship. Please bring any research ideas to the upcoming 8/1 interim meeting. Frank suggested Geraldo to reach out to all TCs to see if anyone needs help with any electrical issues within ASHRAE.

#### **c. Program: John Nix & Frank Pucciano**

April 13, 2023, Teams Meeting Discussion of Potential Programs – Track 4 Decarbonization and Climate Change

- i. Debate: Electrification versus Electrical Infrastructure. Frank discussed about the risk of electrical system issues when upgrading buildings during electrification (i.e., system breakers may no longer be coordinated with the utility or properly protect downstream devices).
- ii. Forum or Panel: Grid versus Onsite Generation and Impact to Decarbonization and Climate Change.
- iii. Seminar/Forum/Panel or Debate: Battery Energy Storage Systems (BESS) for Decarbonization versus Resiliency and Reliability. Frank has seen proposals that show battery utilization for both peak compensation and back-up at the same time.

The group decided not to pursue anything for Chicago at this time.

Potential idea targeting Indianapolis given by Steve Rosenstock (for Legislation, Standards, Codes, and Guidelines track). Steve could give a national perspective and Randall could give a state perspective regarding recent legislation changes.

d. **Handbook: Geraldo Alfonso**

The handbook was submitted on time and looks great! Nice work Geraldo! Our new chair (Beatriz Salazar) is excited to start on the next revision.

e. **Membership: Larry Markel**

Total TC membership stands at 38 at this meeting. 6 VM, 1 MNQ, 12 PCM, 23 CM, 3 YEA.

PCMs are starting to attend our meetings! An idea was presented to invite local ASHRAE chapters to call into TC meetings to increase participation (not exactly sure how this would work). Corey to take this idea back to ASHRAE leadership.

f. **Professional Development Committee (PDC Coordinator): John Nix**

None.

g. **WEBSITE: Steven Faulkner**

Website is up to date.

## 6. **LIAISON REPORTS**

Section Head: Corey Metzger – moving on to the board in FY24. Working on ideas with CTTC and YEA to attract younger members, especially for TCs. ASHRAE also doing Tech Hours 5 times a year. Jason Atkinson will be our new new section head. TC activity form is due tonight.

RAC: None.

TAC: None.

Handbook: None.

## 7. **OLD BUSINESS**

None.

## 8. **NEW BUSINESS**

TC scope discussion: Geraldo proposed to expand our TC's scope via email. Larry explained the history of how the existing scope was approved and suggests us to beware of not limiting our focus on the latest ASHRAE buzz words. Frank solicited comments from our PCM and guest attendees. Stephen Duda said ASHRAE's focus on decarbonization and electrification are the reason why he came since he is teaching a class on building electrical systems. Tom is an electrical engineer and is concerned about the future of the grid. Omar commented that more buzz words may help attract new members. Steve Rosenstock pointed out there is a difference in our scope as listed on our website and what is in the agenda.

# Committee Scope

This technical committee is concerned with electrical systems insofar as they interact with HVAC&R.

Website shows:

Agenda shows: "TC 1.9 is concerned with electrical systems insofar as they interact with the built environment."

We aren't sure which one is correct.

Frank suggested to have a small committee (lead by Steve Rosenstock & Larry Markel) to come up with a new proposal to update our TC's scope. Larry suggested to possibly form a decarbonization subcommittee within TC 1.9 to help interact with other TCs. Steve agreed to help and wants to pull in some new members to gather their ideas via interim conference. Frank wants everyone to jot down their ideas before the meeting to come prepared for the discussion. Frank proposes an interim meeting for 8/1 from 4:30 - 5:30pm EDT to discuss subcommittees and TC description expansion. All participants interested should submit comments via basecamp no later than 7/25. Also, please bring ideas that might affect research and/or programs.

Steve Rosenstock sincerely thanked Frank for all his leadership, especially shepherding us through COVID and remote meetings. Everyone agreed with lots of applause!

## 9. ANNOUNCEMENT OF NEXT MEETING

Chairman Frank announced that the next meeting will be held in Chicago, IL in January 2024, at our usual time on Tuesday.

Frank thanked everyone for attending the meeting.

## 10. ADJOURNMENT

The meeting was adjourned at 5:21 PM (EDT) with a motion by Daryl and a second by Steve. **The motion passed 5-0-0-1-CV.**

Respectfully Submitted,

Michael S. Todd  
Secretary

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## Appendix I – TC Chair’s breakfast slides



TC Chairs Breakfast  
Agenda\_June 2023.do



Chairs Breakfast  
Annual 2023 Tampa.p



GAC Alice Yates.pdf



CEC Notes for TC  
Breakfast.docx