



1791 Tullie Circle, N.E./Atlanta, GA 30329  
404-636-8400

**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 6/6/2019

TC/TG/MTG/TRG TITLE Electrical Systems

DATE OF MEETING 1/15/2019 LOCATION Atlanta, GA

MEMBERS PRESENT (VM's in bold)	YEAR APPTD	MEMBERS ABSENT (VM's in bold)	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
<b>Gerardo Alfonso</b>	2017	<b>John Nix (MNQ)</b>	2007	Amir Jokar – Section Head
<b>Steven Faulkner</b>	2006	<b>Ram Narayanamurthy</b>	2013	James Leidel – Guest TC 6.7
Charles Foster	2001	<b>Armin Hauer</b>	2011	
Robert Helt	1994	Yimin Chen	2017	
<b>Larry Markel</b>	1997	Jacqueline Eaton	2017	
<b>Frank Pucciano</b>	2001	Pavithra Santhanam	2018	
<b>Steven Rosenstock</b>	2005	Glenn Remington	2017	
<b>Michael S. Todd</b>	2011	Ricson Chude	2017	
		Robert Crosby	2004	
		Chad Dorgan	2000	
		Charles Wayne	1997	
		Randall Higa	2016	
		Joseph Lunsford	1995	
		Ken Luther	1990	
		John Richardson	2007	
		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	

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

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 3:40 pm. Technical Committee Member introductions were made. Absent Members are identified on the cover sheet.

Michael Todd, Chair, reviewed the membership list and determined that a quorum was present.

Michael added an item to the agenda under new business concerning the letter from TAC about restructuring Functional Groups (TCs, TGs, MTGs, & TRGs).

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

**Motion: Pucciano/Rosenstock 6-0-0** Frank Pucciano made a motion to approved the June 2018 Houston minutes with a second from Steven Rosenstock. There was no additional discussion and the motion passed unanimously.

### Report Action Items:

None.

## 3. TC MEMBERSHIP AND COMMITTEE APPOINTMENTS

Committee positions for the ASHRAE 2019/2020 year were discussed. A summary of the positions for the upcoming year are shown below.

Chair – Steven Faulkner  
Vice Chair – Frank Pucciano  
Secretary – Michael Todd  
Handbook Subcommittee – Armin Hauer  
Program Subcommittee – John Nix & Frank Pucciano  
Research Subcommittee – Larry Markel  
Standards Subcommittee – Steven Rosenstock & Geraldo Alfonso  
Webmaster – Steven Faulkner  
Member Non Quorum – Robert Helt  
Member Non Quorum – John Nix

The following members will be rolling off as voting members:  
Michael Todd

The following members will roll on as voting members:  
Robert Helt – MNQ

## 4. CHAIR REPORTS: Michael Todd.

Michael reported as follows:

- a. He and Steven attended the TC and TAC Chair breakfast.

b. Highlights were:

- i. MTG.BD on Building Dampness will be disbanded at the Atlanta meeting and a new MTG.HWBE on Health and Wellness in the Built Environment was formed.
- ii. New TC 2.10 on Resilience and Security was formed.
- iii. 2019 is Ashrae's 125<sup>th</sup> anniversary!
- iv. New TC MOP (Manual of Procedures) was recently updated in December 2018.
- v. The deadline for submitting seminars and forums for Kansas City is February 8th.
- vi. Stats from CEC for Atlanta show that programs were highly accepted (Seminars 71 accepted/84 submitted, Workshops 8/9, Forums 3/3, Debates 4/5, and Panels 1/5).
- vii. Orlando conference paper abstracts due March 18.

**Up and coming meetings:** Kansas City, MO – June 22 to 26, 2019

## 5. SUBCOMMITTEE REPORTS

a. **Standards: Steven Rosenstock**

90.1 next edition is coming in October 2019 – updating tables and essentially forcing LED lighting and also mandating renewables.

90.2 was recently published in December 2018.

90.4 is in process for data centers.

189.1 is now aligned with IGCC (published October 2018).

TPS release: Zero Energy Building Standard

Next ADG, small net zero energy building

b. **Research: Larry Markel**

TC 6.7 Solar (guest James Leidel presenting): TC RTAR (see attached in appendix II), Solar Design Guide, focus on PV for buildings for the design/build community. Book to focus on solar installation with other end use equipment. Meeting with Cindi Michaels PEC, 2 years and \$150,000. Looking for co-sponsorship. Needs to go to RAC in March. Will need project sub-committee (Frank volunteered to be on PMS). Need to develop a bid list for Solar RTAR.

**Motion: Helt/ Pucciano 6-0-0** Robert Helt made a motion to have TC 1.9 co-sponsor the TC 6.7 RTAR with a second from Frank Pucciano. There was no additional discussion and the motion passed unanimously.

c. **Program: John Nix (not present)**

Track 4 in Orlando: Cutting Edge Approaches

Frank to chair, seek co-sponsorship with TC 6.7 & 7.5

Objective of resiliency and sustainability

Make presentations based on renewables, grid stability, CHP

1. Battery storage – Robert Helt speaker

2. Solar system – James Leidel to find speaker (TC 6.7)

3. Microgrids – TC 7.5 to find speaker

Potential titles:

Micro-Grids for Sustainability, What's in Your Micro-Grid?

Micro-Grid? Batteries, PV, Wind, Backup Generation

Smarter Buildings Must Haves

Self-Driving Buildings – Solar, Battery, Wind

Micro-Grid Menu – PV, Battery, Wind

d. **Handbook: Armin Hauer (not present)**

The next handbook approval will be July 2021.

e. **Membership: Larry Markel**

None.

f. **Professional Development Committee (PDC Coordinator): John Nix (not present)**

None.

6. **WEBSITE: Steven Faulkner**

Website is up to date – Basecamp is up.

## 7. LIASON REPORTS

Section Head: None.

RAC: None.

TAC: None.

## 8. OLD BUSINESS

None.

## 9. NEW BUSINESS

- a. Remote Participation Meeting (RPM) for Kansas City?

A poll was taken to see how many plan to attend this meeting in Kansas City and the results were six voting members; therefore, no RPM will be pursued.

- b. Letter from TAC proposing the restructuring of FGs (see attached in appendix III)

110+ FG meetings and 180+ sub-committee meetings at every conference. Propose to reduce into 30 new technical working groups (TWGs) in 2 hour time slots. Idea is to free up people to attend the technical program instead of being in constant meetings and hold sub-committee meetings between conferences via technology.

Asking each FG to complete a feedback form shortly after the Atlanta meeting. The plan is to present a new model in Kansas City with implementation in Orlando.

The group discussed the first question on the feedback form concerning which other TCs align most with your scope for potential merger. Below are the results of that discussion in rank from strongest to weakest:

- 1.10 Combined Heat and Power
- 1.11 Electric Motors and Controls
- 6.7 Solar and Renewables
- 6.8 Geothermal Heat Pumps and Energy Recovery Applications
- 6.9 Thermal Storage
- 7.5 Smart Building Systems – 260 members (Sub-committee on Smart Grids)
- 2.10 Resilience and Security

Steven Faulkner asked the question if ASHRAE plans to reduce conference registration costs based on the savings from this restructuring.

Michael will send everyone the feedback form and ask everyone to respond by early February. Michael will consolidate all TC 1.9 feedback and submit the form to TAC in mid-February.

## 10. ANNOUNCEMENT OF NEXT MEETING

Chairman Michael Todd announced that the next meeting would be held in Kansas City, Missouri in June 2019 at the same time on Tuesday.

Michael thanked everyone for attending the meeting.

## 11. ADJOURNMENT

**Motion: Pucciano/Rosenstock 6-0-0** Frank Pucciano made a motion to adjourn with a second from Steven Rosenstock. There was no additional discussion and the motion passed unanimously.

Respectfully Submitted,

Michael S. Todd

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### Appendix I – Section 1 Breakfast Minutes, Publications & CEC Info



2019 TAC Section  
Head Brkfst Handou



ASHRAE NOTES  
January 2019 (3).pdf



ASHRAE Pub  
January 2019.pdf

### Appendix II – TC 6.7 RTAR on Solar PV Design Guide



TC\_6.7\_RTAR\_propo  
sal.pdf

### Appendix III – TAC Restructuring Letter



TAC\_letter\_to\_TCs\_2  
019\_01\_13.pdf