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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 7/16/2019

TC/TG/MTG/TRG TITLE Electrical Systems

DATE OF MEETING 6/25/2019 LOCATION Kansas City, MO

| MEMBERS PRESENT<br>(VM's in <b>bold</b> ) | YEAR APPTD | MEMBERS ABSENT<br>(VM's in <b>bold</b> ) | YEAR APPTD | EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE |
|---|------------|--|------------|--|
| <b>Gerardo Alfonso</b>                    | 2017       | <b>Larry Markel</b>                      | 1997       |  |
| <b>Steven Faulkner</b>                    | 2006       | <b>John Nix (MNQ)</b>                    | 2007       |  |
| Charles Foster                            | 2001       | <b>Ram Narayanamurthy</b>                | 2013       |  |
| <b>Armin Hauer</b>                        | 2011       | Daryl Collerman                          | 2019       |  |
| Randall Higa                              | 2016       | Mohammad Daoud                           | 2019       |  |
| <b>Frank Pucciano</b>                     | 2001       | Jacqueline Eaton                         | 2017       |  |
| <b>Steven Rosenstock</b>                  | 2005       | Shadi A. A. Nejem                        | 2019       |  |
| <b>Michael S. Todd</b>                    | 2011       | Pavithra Santhanam                       | 2018       |  |
|   |            | Ricson Chude                             | 2017       |  |
|   |            | Robert Crosby                            | 2004       |  |
|   |            | Chad Dorgan                              | 2000       |  |
|   |            | Charles Frazell                          | 1997       |  |
|   |            | Robert Helt                              | 1994       |  |
|   |            | Joseph Lunsford                          | 1995       |  |
|   |            | Ken Luther                               | 1990       |  |
|   |            | Glenn Remington                          | 2017       |  |
|   |            | 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><br><a href="mailto:CTTC1@ashrae.net">CTTC1@ashrae.net</a><br><a href="mailto:RL1@ashrae.net">RL1@ashrae.net</a><br><a href="mailto:HBS3@ashrae.net">HBS3@ashrae.net</a><br><a href="mailto:SL1@ashrae.net">SL1@ashrae.net</a> |
| Mike Vaughn,<br>Manager Of Research & Technical Services                                  | MORTS@ashrae.net   |

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 3:37 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.

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

**Motion: Pucciano/Alfonso 5-0-0** Frank Pucciano made a motion to approve the January 2019 Atlanta minutes with a second from Gerardo Alfonso. There was no additional discussion and the motion passed unanimously.

### Report Action Items:

None.

## 3. TC MEMBERSHIP AND COMMITTEE APPOINTMENTS

Since the Atlanta meeting, there were three provisional corresponding members added to the roster.

- Daryl Collerman
- Mohammad Daoud
- Shadi A. A. Nejem

## 4. CHAIR REPORTS: Michael Todd.

Michael reported as follows:

- a. He and Steven attended the TC and TAC Chair breakfast, which was for the first time an all sections combined meeting.
- b. Highlights were:
  - i. '19-20 rosters take effect on July 1 along with the email alias list.
  - ii. New section 1 head is Jennifer Leach.
  - iii. 2019 is Ashrae's 125<sup>th</sup> anniversary!
  - iv. TC MOP (Manual of Procedures) was restructured by TAC so that it is easier to navigate and find information.
  - v. Thank You letters for employers will be available shortly after the annual meeting.

- vi. ASHRAE is now providing conference calls and web meetings to support TC subcommittee meetings between conference meetings.
- vii. The deadline for submitting seminars and forums for Orlando is August 2nd.
- viii. Stats from CEC for Kansas City show the following: Seminars 73 accepted/110 submitted, Workshops 4/8, Forums 0/3, Debates 2/3, and Panels 3/5.
- ix. Orlando conference papers due July 8.
- x. TC Reorganization Update – lots of feedback received and still going through it; first looking to adjust meeting times into a block schedule and move subcommittee meetings into a time slot on the same day as the main meeting; each group to work with section head to determine how to make their work more effective.

**Up and coming meetings:** Orlando, FL – February 1 to 5, 2020

## 5. SUBCOMMITTEE REPORTS

### a. **Standards: Steven Rosenstock**

90.1 next edition will be published in October 2019, onsite renewables still being discussed for 2022, proposal for EV passed (grid interactive).

90.2 published in January 2019, residential leadership getting new chair.

90.4 is in process for data centers, new numbers more stringent.

189.1 wants to publish in October 2020, GWP → 100 years to 20 years, gas industry not happy.

100 Existing Buildings Research Project (help refine source energy numbers) adopted by Washington State.

105 Energy Performance.

227 Passive Commercial Buildings.

228 Zero Net Energy Buildings Measurement Standard.

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

None.

c. **Program: John Nix (not present) & Frank Pucciano**

Targeting Austin:

Frank to chair, seek co-sponsorship with TC 6.7 & 7.5 or 1.10

Objective of resiliency and sustainability

Make presentations based on renewables, on-site generation, 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

Topic of harmonic distortion came up in the recent discussions in SSPC 41.11 (power measurement) for potential joint seminar topic or forum in Orlando (TC 1.11, 1.9, SSPC 41.11).

d. **Handbook: Armin Hauer**

Chapter 56, next update to be published in 2023, share ideas for edits, start compiling thoughts. Frank volunteered to write a section on micro-grids.

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**

None.

**10. ANNOUNCEMENT OF NEXT MEETING**

Chairman Michael Todd announced that the next meeting would be held in Orlando, Florida in January 2020 at the same time on Tuesday.

Michael thanked everyone for attending the meeting.

**11. ADJOURNMENT**

**Motion: Faulkner/Pucciano 6-0-0** Steven Faulkner made a motion to adjourn with a second from Frank Pucciano at 5:08 PM. 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 & CEC Info



KC\_TC Brkfst notes,  
Reminders & presen



TC Breakfast  
Handout\_June 2019