



1791 Tullie Circle, N.E./Atlanta, GA 30329

404-636-8400

**DRAFT**

**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-1.4 DATE 2/4/2020

TC/TG/MTG/TRG TITLE Control Theory and Application

DATE OF MEETING February 4, 2020 LOCATION Orlando, FL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
James Del Monaco	2019			Corresponding –
Chariti Young	2019			Provisional –
Jin Wen	2017			Guests –
Mark Hydeman	2017			
Brandon Gill	2018			
Larry Fisher	2018			
Chris Benson	2019			
Lotfi Nemat	2019			
Amanda Pertzborn	2019			

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

TAC Section Head: Jennifer Leach, PE	<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:jkohler9@comcast.net">jkohler9@comcast.net</a> ; <a href="mailto:ahmed.kashef@nrc-cnrc.gc.ca">ahmed.kashef@nrc-cnrc.gc.ca</a> ; <a href="mailto:jatkisson@aeieng.com">jatkisson@aeieng.com</a> ; <a href="mailto:pharmeng@shaw.ca">pharmeng@shaw.ca</a> ; <a href="mailto:shammerling@ashrae.org">shammerling@ashrae.org</a>
Steve Hammerling, 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.



# ASHRAE Technical Committee 1.4

## Meeting Agenda

TC 1.4 Control Theory and Application

<http://tc14.ashraetcs.org/>

Tuesday, February 4, 2020 1:00 – 3:30 pm LL Orange G, Hilton Orlando, FL

*“Commitment to the 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. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)”*

TC 1.4 Control Theory and Application	Tuesday 1:00 PM	Orange G	Hilton Orlando
TC 1.4 YEA/Education	Sunday 2:00 PM	Lake Monroe A	Hilton Orlando
TC 1.4 Control Components and Applications	Sunday 3:00 PM	Lake Monroe A	Hilton Orlando
TC 1.4 Programs	Sunday 4:00 PM	Lake Monroe A	Hilton Orlando
TC 1.4 Research	Monday 2:00 PM	Lake Down B	Hilton Orlando
TC 1.4 Handbook	Monday 4:00 PM	Lake Down B	Hilton Orlando
TC 1.4 Executive	Tuesday 8:30 AM	Key Largo B	Hilton Orlando
TC 1.4 RP-1711 SOO’s for Hydronic Systems	Tuesday 9:30 AM	Key Largo B	Hilton Orlando

Seminar 4	Moving BAS for Hospitals into the Future	Sunday 8:00	Orange F	Hilton Orlando
Forum 1	Cybersecurity, Artificial Intelligence and HVAC	Monday 9:45	Orange B	Hilton Orlando
Seminar 34	Control of District Energy Systems	Monday 11:00	Orange C	Hilton Orlando
Seminar 37	Show Me the Money! Cost-Based Control of Supply Air Temperature	Monday 11:00	Orlando VI	Hilton Orlando
Seminar 45	BACnet Secure Connect: What You Need to Know!	Tuesday 9:45	Orange E	Hilton Orlando
Seminar 60	Control for Grid Interactive Buildings: A Look Toward the Future	Wednesday	Orange E	Hilton Orlando
Seminar 74	Smart Is as Smart Does: Case Studies from Intelligent Florida Buildings, Campuses and Cities	Wednesday 11:00	Orange F	Hilton Orlando

**1) Call to Order**

**2) Introduce Members, Guests, and Liaisons**

### 3) Roll Call (Quorum)

X	James Del Monaco, 6/30/21
X	Christopher Benson, 6/30/23
X	Jin Wen, 6/30/21
X	Larry Fisher, 6/30/22
X	Brandon Gill, 6/30/22

	Mark Hydeman, 6/30/21
X	Chariti Young, 6/30/21
	Nemat Lotfi, 6/30/23
X	Amanda Pertzborn, 6/30/23

### 4) TC 1.4 Scope

- a) ASHRAE Technical Committee 1.4 is concerned with control theory, systems, and components (excluding refrigerant flow controls) for heating, ventilating, air conditioning, and refrigeration uses.

### 5) Approve minutes from previous meeting (posted on website)

- a) X motions to approve. Y seconds. Approved -0-0

### 6) Approve agenda

- a) X motions to approve. Y seconds. Approved -0-0

### 7) Group Discussion point

- a) **New Clause in ASHRAE Guideline 13- Specifying BAS Systems**
  - i) Short presentation by Ron to introduce concepts to be covered in the next update.
- b) **Review of Dampers and Airflow Controls**
  - i) [https://www.techstreet.com/ashrae/standards/dampers-and-airflow-control?product\\_id=1703570](https://www.techstreet.com/ashrae/standards/dampers-and-airflow-control?product_id=1703570)
  - ii) ASHRAE has requested feedback if the TC feels this book is still relevant given the recent publication of Guideline 36.

### 8) New business

- i) TC will be more active in utilizing Basecamp
- ii) New Standard on Control Description Language (CDL)
  - (1) Steve Taylor to update the TC.
- iii) Update on RP 1711
  - (1) Update by Steve Taylor/Brandon Gill
  - (2) Anticipated Vote on 2/28.
- iv) Update on 1865-WS.
  - (1) Update by Kim Barker

### 9) Announcements

- a) **TAC – Technical Activities Committee**
  - i) Update on TAC initiative to reduce the number of technical groups
  - ii) Goals
    - (1) Increase opportunity for collaboration for programs & research
    - (2) Increase opportunity for workshops for Handbook
    - (3) Increase meeting efficiency and increase effectiveness of members' volunteer time
  - iii) Results
    - (1) Expecting (3) TCs to merge in Orlando
    - (2) Ongoing conversations with others

b) **CEC – Conferences and Expositions Committee**

- i) Larry's 3-hour course about "Best Practices for Installing DDC Control Systems" was approved and the first presentation was scheduled for Orlando.
  - (1) <https://www.ashrae.org/professional-development/all-instructor-led-training/instructor-led-training-seminar-and-short-courses/best-practices-for-installing-ddc-control-systems>
- ii) ASHRAE has requested TCs reach out to members to volunteer to review conference papers.
- iii) Technical Program Statistics for Orlando:
  - Conference Papers and Extended Abstracts
    - 165 conference paper abstracts submitted, 137 approved
    - 73 conference papers presented
    - 25 Conference Paper Sessions
  - Technical Papers
    - 27 Technical papers received
    - 25 Technical papers presented
    - 25 Technical Paper Sessions
  - Seminars
    - 123 submitted
    - 75 presented
  - Panels
    - 2 submitted
    - 2 scheduled
  - Workshops
    - 6 submitted
    - 2 scheduled
  - Forums
    - 5 submitted
    - 1 scheduled
  - Debates
    - 2 submitted
    - 2 scheduled
- iv) Upcoming conferences
  - 2020 Annual – Austin, TX June 27 – July 1, 2020
  - 2021 Winter – Chicago, Illinois, January 23 – 27
  - 2021 Annual – Phoenix, Arizona, June 26 – 30
  - 2022 Winter – Las Vegas, Nevada, Jan. 29 – Feb. 2
  - 2022 Annual – Toronto, ON, June 25-29

c) **RAC – Research Activities Committee**

i)

**10) OLD BUSINESS**

a) **PROJECT COMMITTEE AND ONGOING RESEARCH REPORTS**

- i) SSPC 135 (BACnet) – Michael Osborne / Carol Lomonaco
  - (1) Working on Semantic Tagging (Standard 223P), Secure Connect, and ISO 16484-5 and -6 updates.
  - (2) Will obsolete the current Security scheme due to very low adoption.
  - (3) Researching Semantic Tagging
  - (4) Looking for volunteers

- (a) To help with Integrator's and Developer's Guides
    - (b) Also, security people who understand Bootstrapping.
  - ii) SGPC 13 (Specifying Building Automation Systems) – Ron Bernstein
  - iii) SGPC 36 (High Performance Sequences of Operation for HVAC Systems) – Mark Hydeman / Steve Taylor
    - (1) Steve Taylor replaces Mark as Chair of SGPC-36
  - iv) RP-1711 (High Performance SOOs – Hydronic Systems) – Marcelo Acosta
- b) SUB-COMMITTEE REPORTS
- i) **Executive** – James Del Monaco
    - (1) Roster Membership Update
      - (a) No change to voting members.
  - ii) **Education/YEA** – Michelle Shadpour
  - iii) **Control Components and Applications** – Chad Moore
    - (1) New ideas for the TC to work on - research and seminars
  - iv) **Program** – Frank Shadpour
    - (1) 7 sessions at this conference
    - (2) x proposals for Austin
  - v) **Research** – Kim Barker
    - (1) 1711-RP (Advanced Sequences of Operation for HVAC Systems – Phase II Central Plants and Hydronic Systems) – Marcelo Acosta
      - (a) Task 2 – Final submission approved
      - (b) Task 3 – First submission. Not voted yet
      - (c) Task 4 – Started
    - (2) 1 WS approved and submitted
      - (a) DOAS Supply Temperature Optimization.
    - (3) X other RTARs & WSs under development
  - vi) **Handbook** – Charlotte Dean
    - (1) Chapter 7 of Fundamentals – Started review. Approval anticipated in Austin at the Annual Conference.
    - (2) Handbook central:
      - <https://www.ashrae.org/technical-resources/ashrae-handbook/ashrae-handbook-central>
  - vii) **Standards** – Steve Taylor
  - viii) **Webmaster** – Joseph Kilcoyne
    - (1) Website is up-to-date.
- c) COMMITTEE LIASION REPORTS
- i) TC 1.5 (Computer Applications) – Mike Pouchak.
  - ii) TG 2 HVAC Security – Kim Barker
  - iii) TC 5.6 (Control of Fire & Smoke)
  - iv) TC 6.1 (Hydronic Systems)
  - v) TC 6.7 (Solar Energy Utilization) – Gaylen Atkinson

- vi) TC 7.3 (Operations & Maintenance Management)
- vii) TC 7.5 (Smart Building Systems) – Jin Lin
- viii) TC 7.6 (Systems Energy Utilization)
- ix) TC 7.9 (Building Commissioning) – David Bornside
- x) TC 9.10 (Laboratory Systems) – Jim Coogan
- xi) TC 9.11 (Clean Rooms) – Phil Naughton
- xii) SSPC 62.1 (Ventilation and Acceptable IAQ) – Len Damiano
- xiii) SSPC 90.1 (Energy Efficient Design of New Buildings) – Steve Taylor
- xiv) SSPC 202 (Commissioning Process for Buildings and Systems) – Barry Bridges
- xv) TC 1.6 (Terminology) – David Bornside
- xvi) SGPC 0.2 & 1.2 (The Commissioning Process) – David Bornside
- xvii) SPC134 (Graphic symbols for HVAC systems) – David Bornside
- xviii) SPC 189.1 Design of High Performance Building – Bogi Setty
- xix) MTG Occupant Behavior in Buildings – Kim Barker

d) SOCIETY COMMITTEES

**11) Upcoming Deadlines**

- Austin Annual Conference – June 27 – July 1, 2020
- Seminar and Forum proposals for Austin are due by February 10, 2020
- RTARs & Work Statements TBD
- Conference Website: <https://www.ashrae.org/conferences/2020-annual-conference-austin-texas>
- Conference Chair: Bill Klock
- Program Focus at Austin Annual Conference
  - i. Track 1: Fundamentals and Applications
  - ii. Track 2: HVAC&R Systems and Equipment
  - iii. Track 3: Research Summit
  - iv. Track 4: Professional Development
  - v. Track 5: Grid-Interactive Efficient Built Environment
  - vi. Track 6: Multifamily and Residential Buildings
  - vii. Track 7: Resilient Buildings and Communities
  - viii. Track 8: Zero Energy Buildings and Communities: Opportunities and Challenges
  - ix. Track 9 (Mini-Track): Building Myths

**12) Next Meeting – Austin, TX | June 27 – July 1, 2020**

**13) Adjourn**