

Full Committee Meeting Minutes

TC 1.4 Control Theory and Application

<http://tc0104.ashraetcs.org/>

Tuesday, February 3, 2026 1:00 – 3:30 pm EDT Hybrid Conference

Code of Ethics Commitment

"In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all. (See *full Code of Ethics*: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)"

1) Call to Order

2) 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.

3) Introduce Members, Guests, and Liaisons

- a) General Introductions – In person and virtual
- b) Determination of a quorum

VOTING MEMBERS FOR THIS MEETING (Need (4) or ½+1 for a Quorum)

NAME	Roll-Off-Date		NAME	Roll-Off-Date	
Chariti Young	6/30/26	X	Michelle Shadpour	6/30/28	X
Jayson Bursill	6/30/27	X	Greg Tayco	6/30/28	X
JoeDon Breda	6/30/27	X	TBD (See above)	6/30/29	
Taraneh Shoorideh	6/30/27	X	TBD (See above)	6/30/29	

4) Voting Items

- a) Chariti Young motioned to approve the minutes from 2025 Annual Meeting through electronic vote after this conference. Tara Shoorideh seconded. Approved 5-0-0-0 (CNV).

5) Announcements

a) **TAC – Technical Activities Committee – Section Head Natascha Milesi-Ferretti**

- I. Upcoming conferences
 - A. June 26-July 1, 2026 – Austin, TX
 - B. Jan. 23-27, 2027 – Chicago, IL
 - C. June 12-16, 2027 – New Orleans, LA
 - D. Feb 5-9, 2028 - Orlando, FL
- II. New policy form ASHRAE meetings. All sub-committees will be virtual starting in Austin.
 - A. Concerns about TC membership erosion were brought up.
 - B. Natascha to take concerns through TAC
- III. TC is required to re-affirm committee scope
- IV. Roster updates must be done by March 6th
- V. Also submit Committee form by EOD today
- VI. Greg Tayco motions we reaffirm our scope and continue as a committee in ASHRAE, Jayson Bursill seconds. Passed 5-0-0-0 CNV

b) **RAC – Research Activities Committee – Section Head Srinivas Katimapula**

- I. Report by Amanda Pertzborn
 - A. Will be in Research sub-committee report

6) Sub-Committee Reports

a) **Executive** – Michelle Shadpour

i) 2025/2026 TC 1.4 Executive Team

(1) Chair – Michelle Shadpour (Previously Elise Backstrom)

(2) Vice Chair – Jayson Bursill

(3) Secretary – Vacant (Greg Tayco to take over next term)

ii) Voting members rolling off this year: Chariti Young and Elise Backstrom.

iii) Voting members rolling on July 1st: Aaron Sorrell, Terry Schroeder, and Ken Gilbert

iv) If you do not have access to the TC 1.4 Basecamp and need it, please reach out to Michelle.

b) **Education/YEA** – Greg Tayco | Vice Chair Grace Bailey

1. YEA Subcommittee on Monday. 11 new YEA attendees.
2. Grace Bailey to take over for Greg as YEA Chair in FY 26/27
3. Collin Mabe to take over as Vice Chair in FY 26/27

c) **Brainstorming - Innovative and Disruptive Technologies** – Chad Moore/Chris Benson

1. Well attended and lively discussion on Sunday
2. AI and Heat Pumps were the hot topics
3. Topics were tied into Research and Program concepts

d) **Program** – Ariana Axelrod | Vice Chair Matt Walters

1. 2 programs approved to AHR 2026
 - a. Sessions were well received. Ron to look at more programs from TC 1.4 for AHR 2027
2. 4 seminars and 1 debate at 2026 Winter Meeting
 - a. Turnout was good for our programs
3. When programs are submitted, submitters should copy Ariana because there isn't internal tracking that the Program chair can access.
4. Many program topics came from the Brainstorming - Innovative and Disruptive Technologies session
5. Deadline for submissions is February 25th 2026

e) **Research** – Amanda Pertzborn | Vice Chair Chris Battisti

1. Resources:

- a. About \$4M in funding from RAC for projects this year
- 2. Active research updates:
 - a. See Research Sub-committee report
- f) **Handbook** – Terry Schroeder | Vice Chair Tara Shoorideh
 - 1. Met on January 23rd virtually ahead of the conference
 - 2. Final edits due April 1st for 2027 publication
 - a. Working on Chapter 48 of applications
 - b. Working on Chapter 7 of fundamentals
 - 3. Will migrate documents offline to avoid authoring portal and help with collaboration.
 - 4. TC will have to vote on edits to proceed to publication
 - 5. Chapter 48 of applications will move to another handbook during handbook restructure
- g) **Standards** – Steve Taylor
 - 1. 90.1 is being republished (90.1-2025)
 - a. Dewpoint measurement is now required (not just RH)
 - b. Accuracy of dewpoint measurement is specified
 - c. References time-averaged logic for dewpoint from ASHRAE Guideline 36
 - d. 90.1 clarifies that RH is required in every room
 - e. Turndown to 15% of design airflow is now required
 - 2. 62.1 now has CO2 setpoints for DCV
 - a. Referenced in 90.1
 - b. Also a new accuracy requirement (30ppm +3% of range)
 - c. Upper range now 2,500 ppm (not 2,000)
 - d. Added outdoor pollution mode and “241” mode
 - 3.
- h) **Webmaster** - Dave Roberts
 - 1. Feedback was good.

7) **Liaison Reports – TC 1.4 Sponsored Functional Groups**

a) **SGPC 13 Specifying Building Automation Systems**

- i) Report given by Chris Battisti
 - 1. Continuous improvement on
 - a. Graphical User Interfaces
 - b. Enterprise planning and Master System Integrator (MSI)
 - c. Cyber
 - 2. TPS has been modified
 - a. Refer to Basecamp for specifics

b) SGPC 36 High Performance Sequences of Operation for HVAC Systems

- i) Report given by Steve Taylor
 - Several addenda in the process of review
 - Lab Exhaust
 - Heat pumps
 - Fan coils
 - VAV SAT Reset (cost-based)

c) SPC 231P CDL – A Control Description Language for Building Environmental Control Sequences

- i) Report given by Paul Ehrlich
 - 1. Finished 2nd public review
 - 2. Approved by committee and ASHRAE standards
 - 3. To be published soon
 - 4. A new SSPC 231 will emerge led by Jayson Bursill
 - a. Contact Jayson if interested

d) SPC 223P - Semantic Data Model for Analytics and Automation Applications in Buildings

- i) Report given by Ron Bernstein
 - 1. Out for 1st public review
 - 2. Final stages of comment review
 - 3. Targeting 2nd public review soon. Passed SSPC 135 vote.

e) SPC 236P - Method of Test for Control Programming Conformance with HVAC Sequences of Operation

- i) Report given by Hwakong Cheng
 - 1. TPS made it through all of the ASHRAE approvals in the summer/fall (SGPC 36, TC 1.4, PPIS, StdC, TechC) and went out to public review with no comments back
 - 2. Hwakong will be chair
 - 3. Applications for committee members were received and are under review by SPLS in Vegas
 - 4. Committee will likely meet for the first time in person in Austin
 - 5. A CalNEXT project has been running to support this effort. The goal of the CalNEXT project is a draft pilot MOT.

f) SSPC 135 – BACnet - A Data Communication Protocol for Building Automation and Control Networks

- i) Report given by Grace Bailey
 - 1. Great participation (including international)

2. New Education working group

g) **MTG.CYB - Cybersecurity for HVAC Systems And Related Infrastructure**

i) Report by Ron Bernstein

1. Had seminar on Sunday.
2. Discussed overlap in other domains (e.g., SGPC 13).

h) **MTG.EBO - Effective Building Operations**

i) Report by Michelle Shadpour

1. MTG met to restart this effort and is beginning to explore effective ways to connect with building operators and non-ASHRAE professionals.

8) Committee Liaison Reports

- A. TC 1.5 (Emerging Computing Applications) – Mike Pouchak
 - a. Active research project out to bid on Occupancy patterns for cluster of buildings
 - b. Upcoming RTAR on development of BIM to EnergyPlus workflows
 - c. Upcoming RTAR on BEQ tools
 - d. Upcoming work statement on semantic mapping from SPC 223P and Industry Foundation Class (IFC)
 - e. Handbook work underway
- B. TC 2.10 HVAC Security – N/A
 - a. No report
- C. TC 7.5 (Smart Building Systems) – Joe Zhou
 - a. Meeting didn't happen yet
 - b. Had some programs related to AI
 - c. TC 7.5 also disenfranchised by ASHRAE policy on TC subcommittees
 - i. Will send draft letter
- D. TC 9.10 (Laboratory Systems) – Jim Coogan
 - a. Ran first ever session of ALI class on lab controls
 - b. Lots of collaboration with SGPC 36 on sequences
- E. TC 9.11 (Clean Rooms) – N/A
 - a. No report
- F. SSPC 62.1 (Ventilation and Acceptable IAQ) – Steve Taylor
 - a. See standards above
- G. SSPC 90.1 (Energy Efficient Design of New Buildings) – Steve Taylor
 - a. See standards above

9) Old Business

- A. None

10) New Business

- A. TC Subcommittee issue
 - a. Michelle Shadpour to submit waiver request
 - b. TC leadership will coordinate with TC 7.5 on a letter
- B.

11) Upcoming Deadlines

- Austin Annual Conference
 - Seminar, Forums, Workshops, Panels and Debates proposals are due by Wednesday, February 25th, 2026.
 - Please visit the following site to submit your proposal: For more information, go to: www.ashrae.org/conferences/2026-annual-conference-austin/2026-annual-conference-technical-program. Here's the deadlines:
 - Wednesday, November 19, 2025 | Conference Paper Abstracts and Paper Session Requests Due
 - Friday, December 12, 2025 | Conference Paper Abstract Accept/Reject Notifications Sent
 - Wednesday, January 7, 2026 | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate and Panel Proposals
 - Wednesday, February 25, 2026 | Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due
 - Wednesday, February 25, 2026 | Conference Papers Due
- George Hightower Award Nominations – December 1st, 2026
- Roster Updates
 - All roster updates are due on or before Friday, March 6th, 2026.

8) Next Meeting – Annual Conference June 26-July 1, 2026 – Austin, TX

9) Adjourn at 2:56pm PST