



**TECHNOLOGY  
COUNCIL  
Fall Virtual Meeting  
October 09, 2023**

*NOTE: These are not official minutes until approved by Technology Council.*

## MOTIONS

Technology Council Fall Virtual Meeting Motions  
October 09, 2023

Motion Number	Motion
<a href="#"><u>1</u></a>	DRSC recommends to Tech Council to recommend to the BOD Ex-Com the initiation of a revision to the <i>Indoor Carbon Dioxide</i> Position Document (PD).
<a href="#"><u>2</u></a>	DRSC recommends to Technology Council the appointment of the following <i>Indoor Carbon Dioxide</i> PD Committee members: <ul style="list-style-type: none"><li>• Andrew Persily (Chair) – Public</li><li>• William Bahnfleth – Public</li><li>• Howard Kipen – General</li><li>• Josephine Lau – General</li><li>• Corrine Mandin – Public</li><li>• Chandra Sekhar – General</li><li>• Pawel Wargocki – Public</li><li>• Lan Chi Nguyen Weekes – General</li></ul>

**ACTION ITEMS**  
**Technology Council Fall Virtual Meeting**  
**October 09, 2023**

AI#	Responsibility	Status	Description
<a href="#"><u>1</u></a>	Stephanie Reiniche	New	Add formal communication for the HVAC summit to the leadership agenda.
<a href="#"><u>2</u></a>	Amber Thomas	New	Send out MBOs to TechC and PLC.

**ACTION ITEMS**  
**Technology Council Annual Meeting**  
**June 28, 2023**

AI#	Responsibility	Status	Description
1	EHC	Open	Connect with Paul Francisco and other standing committees who have stated an interest in being involved in the revision of the Unvented Combustion Devices and Indoor Air Quality PD.

**Action Items**  
**Technology Council Spring Virtual Meeting**  
**April 17, 2023**

AI#	Responsibility	Status	Description
1	Amber	Complete	Send out the feedback on Society addressing AI technology.

**Action Items**  
**Technology Council Winter Conference**  
**Wednesday, February 8, 2023**

AI#	Responsibility	Status	Description
1	Stephanie Reiniche	Complete	Post the old and revised Council MOP for review with a spreadsheet for comments. The posting will include post the Society Rules Committee (SRC) MOP template for reference.
2	REF-CPCC	Open	Add the international members they want to engage into its MOP or Reference Manual.

3	Sarah Maston	Closed	Create a letter addressing the importance of DEI and the direct links.
4	Stephanie Reiniche	Complete	Add a DEI liaison report to future agendas.

### **Action Items**

Technology Council Fall Virtual Meeting  
September 27, 2022

<b>AI#</b>	<b>Responsibility</b>	<b>Status</b>	<b>Description</b>
1	Council Members	Complete	Provide feedback for future strategic plans to Ms. Thomle prior to the Ops meeting in October.

**Minutes**  
Technology Council

<b><u>Voting Members Present:</u></b> Ashish Rakheja, Chair Wade Conlan, Vice Chair Carl Huber Christopher Phelan Costas Balaras Dru Crawley Larry Smith Luke Leung Mike Pouchak Richie Mittal Steve Sill Bill Bahnfleth – EHC Chair Bill Murphy – RAC Chair Bill Healy – RBC Chair Steve Kujak – REF Chair Jonathan Humble – StdC Chair Jamie Bennett – TAC Chair  <b><u>Non-voting Present:</u></b> Marwa Zaatari -EHC Vice Chair Rachel Romero – RBC Vice Chair Doug Scott - REF Vice Chair Doug Fick - StdC Vice Chair	<b><u>Staff</u></b> Stephanie Reiniche, DOT Steve Hammerling, MOT Derrick Nesfield, MOSP Amber Thomas, Administrative Assistant  <b><u>Guests</u></b> None  <b><u>TechC Voting Absent:</u></b> Paul Francisco Susanna Hanson – OPS Chair Olu Soluade – GTIC Chair  <b><u>TechC Non-Voting Absent:</u></b> Natascha Milesi-Ferretti – RAC Vice Chair Kevin Mercer – TAC Vice Chair
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**1. CALL TO ORDER/OPENING COMMENTS**

Chair Rakheja called the meeting to order at 9:00 A.M. EST. The commitment to care, the commitment to the Code of Ethics and the ASHRAE Core Values were shared during the meeting.

*Secretary's Note: Quorum was met with 17 voting members, including the Chair at the start of the meeting.*

*All reports referenced in the minutes are on Basecamp in the folder "2023-10-09 Fall Virtual Meeting."*

**2. REVIEW OF AGENDA**

A. Agenda Review

The agenda was approved as presented.

**3. MINUTES/ACTION ITEMS**

A. TechC Annual Meeting Minutes – 03A

It was moved by Ashish Rakheja and seconded by Wade Conlan that the Technology Council Annual Meeting minutes be approved.

**MOTION PASSED by Acclamation.**

B. Action Items

The action items were updated as shown above in the action item table.

Larry Smith reported that the Technology Council revised MOP has been put into MOP format. The review period closed on Friday, October 6, 2023. Comments will be put for approval, and the MOP will be sent up the chain to get passed at the Winter Meeting in Chicago.

**4. SUBCOMMITTEE REPORTS**

**A. Operations (OPS)**

Amber Thomas presented the report in lieu of Susanna Hanson, OPS Chair. The report is posted on Basecamp as *04A OPS Report to Tech Council.docx*.

Ms. Thomas highlighted the following information items:

1. Subcommittees are focused on making sure their MBOs align with the current Strategic Plan and are in compliance with the format specified by the Society Planning Committee.
2. World of Tech at ASHRAE will be rolling out soon. They will release article and social media videos that focus on topics to get ASHRAE members more engaged.
3. OPS is adding Global Technical Interaction Committee (GTIC) to the list of reporting committees.

**B. Special Projects**

Steve Sill, Special Projects Chair, presented the report. The report is posted on Basecamp as *04B\_Special Projects Report to OPS\_10-06-2023.docx*.

Mr. Sill highlighted the following information items:

1. Special Project committee has been tasked with overseeing the following two projects: World of Tech @ ASHRAE and HVAC Summit Action Items.
2. World of Tech @ ASHRAE, members John Constantinide, and Larry Smith of TAC will produce six videos to start the process.
3. The group has identified actional items from the HVAC Summit that was held in Istanbul and has made recommendations on what entities in ASHRAE should be the lead.

Wade Conlan suggested adding WoT (World of Tech) to the Special Projects Reference Manual so that it is documented and continues. Mr. Sill indicated that the timeline for WoT is still in progress.

**A1**

An action item was assigned to Stephanie Reiniche to add formal communication for the HVAC summit to the leadership agenda.

### **C. Document Review Subcommittee (DRSC)**

Wade Conlan, DRSC Chair, presented the report. The report is posted on Basecamp as *04C-DRSC Rprt to TechC.23F.docx*.

It was moved by Mr. Conlan that:

**M1**

DRSC recommends to Tech Council to recommend to the BOD Ex-Com the initiation of a revision to the *Indoor Carbon Dioxide* Position Document (PD).

#### **BACKGROUND:**

**Title:** Indoor Carbon Dioxide

**Purpose:** To provide ASHRAE's position on the role that CO<sub>2</sub> plays in ventilation and indoor air quality including standards, guidelines and control techniques.

**Scope:** PD will delineate at what levels CO<sub>2</sub> is a contaminant of concern, when it can be used as an indicator of acceptable indoor air quality or productivity, and how it can be used in ventilation and IAQ control systems. PD will what is known and what ASHRAE should do going forward.

*Background from initial motion to initiate a PD on this topic:*

There is confusion about what CO<sub>2</sub> exposure means in terms of IAQ, about health and productivity effects of CO<sub>2</sub> and about benefits of CO<sub>2</sub> control technologies. People are misapplying ASHRAE technology/information to produce systems and situations that do not provide what they claim. This poor understanding can lead to energy waste and/or poor IAQ. ASHRAE needs to clarify its position on these issues.

EHC and DRSC votes were unanimous.

**Tech C Vote:** 16-0-0, CNV

**M2**

DRSC recommends to Technology Council the appointment of the following *Indoor Carbon Dioxide* PD Committee members:

- Andrew Persily (Chair) – Public
- William Bahnfleth – Public
- Howard Kipen – General

- Josephine Lau – General
- Corrine Mandin – Public
- Chandra Sekhar – General
- Pawel Wargocki – Public
- Lan Chi Nguyen Weekes – General

**BACKGROUND:** This committee is the same committee that developed the first version of this position document, and they have all expressed willingness to participate in the revision. The committee meets the balance requirements for PD committees (4 public, 4 general). The members represent several relevant ASHRAE committees and outside expertise. EHC and DRSC votes were unanimous.

**Tech C Vote:** 16-0-0, CNV

## 5. **STANDING COMMITTEE REPORTS**

### A. **Standards Committee (StdC)**

Jonathan Humble, StdC Chair, did not have a report to present. Mr. Humble summarized the ongoing activities of the StdC:

1. StdC has developed a digital task group. TAC has a similar task group that is looking into AI so Std is coordinating so as to not intersect
2. Due to the formation of GTIC, StdC in coordination with GTIC is reviewing of the rules of both committees so that there is a connection as they operate going forward. This reviewing of the procedures with recommended changes should be done by the Winter Meeting in Chicago.
3. StdC is working on getting the education portion of its MBO up and running. The plan is to have hourly monthly meetings where PCs can attend with specific topics.

### B. **Research Administration Committee (RAC)**

Bill Murphy, Chair of RAC, presented the report. The report is posted on Basecamp as *05B-Rac-Fall Meeting Report and Info. Items.doc*.

Mr. Murphy highlighted the following information items:

1. RAC expects to release for bid in the fall 2023 the following seven RAC-approved work statements(WS):
  - **1797-TRP**, “Assessment of the A/B toxicity classification used in Standard



34", Sponsored by TC 3.01 (Refrigerants and Secondary Coolants)

- **1864-TRP**, "*Investigating the applicability of Standard 62.1's Ventilation Rate Procedure for Healthcare Rooms*", Sponsored by SSPC 170 Ventilation of Health Care Facilities; Co-sponsored: TC 9.06 (Healthcare Facilities) & SSPC 62.1 (Ventilation for Acceptable Indoor Air Quality)
  - **1889-TRP**, "*Graywater use in healthcare facilities- determining risk and appropriate design responses*", Sponsored by TC 9.6 (Health Care Facilities)
  - **1926-TRP**, "*Update of U-factors, Solar Heat Gain Coefficients and Visible Transmittances of Standard Fenestration Units made from Representative Fenestration Frame and Glazing Systems in the Fenestration Chapter of the Handbook of Fundamentals*", Sponsored by TC 4.05 (Fenestration)
  - **1928-TRP**, "*Improving efficiency test methods to measure air cleaner performance against airborne particulate contaminants in a recirculating system*", Sponsored by TC 2.09 (Ultraviolet Air & Surface Treatment); Co-sponsor: TC 2.03 (Gaseous Air Contaminants and Gas Contaminant Removal Equipment), TC 2.04 (Particulate Air Contaminant and Particulate Contaminant Removal Equipment), TC 9.06 (Health Care Facilities) & EHC (Environmental Health Committee)
  - **1929-TRP**, "*Evaluation of building life cycle analysis tools incorporating embodied carbon*", Sponsored by: TC 2.8 (Building Environmental Impacts and Sustainability)
  - **1934-TRP**, "*A Survey Study on the Development and Application of Data-Driven Model Predictive Control in Buildings*", Sponsored by: TC 7.05 (Smart Building Systems)
2. RAC reviewed two new WSs at its fall meeting and both were returned with comments to the sponsoring TCs.
  3. RAC reviewed five new and revised RTARs submitted by the TCs at its second fall meeting in September. Those WSs that are accepted w/comments will be added to the Society's Research Implementation Plan and developed by the sponsoring TC into a work statement.
  4. Mr. Murphy also indicated RAC is looking into when information regarding embedded decarbonization will be available in United States sources.

### C. Technical Activities Committee (TAC)

Jamie Bennett, the Chair of TAC, presented the report. The report is posted on Basecamp as *05C-TAC Rprt to TechC.23F.docx*.

Mr. Bennett highlighted the following information items:

1. TAC received a proposal for a new MTG.GAI, *Generative Artificial Intelligence*, at the Annual Meeting. TAC requested some more information and is awaiting a revised proposal.
2. TAC approved scope change for TC 2.1 as shown:

*TC 2.1 takes into account is concerned with the interactions of human physiology and psychology with the relationship of man's living built environment, as altered by air-conditioning, heating and ventilating systems, and their impacts on to his comfort, health, and productivity well-being and performance*

3. Staff continues to work with vendor on an online roster update tool. A tool for testing is expected to be tested by TAC and targeted TCs (9.9 & 4.2) later in October. The aim is for the tool to be ready at the start of the next roster rollover process in Chicago.

#### **D. Environmental Health Committee (EHC)**

Bill Bahnfleth, the Chair of EHC, presented the report. The report is posted on Basecamp as *06D-EHC Rprt to TechC.23F.docx*.

Mr. Bahnfleth highlighted the following information items:

1. Motions to initiate a revision to the *Indoor Carbon Dioxide* position document (PD) and to recommend an *Indoor Carbon Dioxide* PD committee were approved by EHC and are in DRSC report.
2. ASHRAE continues to participate in the IEQ-GA with Corey Metzger and Bill Bahnfleth as the ASHRAE representatives. The IEQ-GA is now incorporated as a legal entity and operates with 11 full member organizations (AICARR, AIHA, AIVC, ASA, ASHRAE, FAIAR, FEDECAI, IES, IICRC, ISHRAE, REHVA). The IEQ-GA has held webinars, podcasts and is planning a publication. All are invited to listen and participate.
3. EHC is reviewing ROB 1.201.004.9 *Indoor Air Quality or Ventilation Standards*. This rule establishes requirements that must be followed by any code-intended IAQ or ventilation standards. EHC and expects to recommend changes to the ROB to reduce or eliminate the need for granting waivers for ASHRAE standards work that may not meet the requirements described in the ROB.
4. Jennifer Isenbeck & Iain Walker will co-chair the ASHRAE's IEQ2025 Conference, which is the continuation of the IAQ conference series initiated in 1986. The name of the conference is being changed to reflect an expansion of the scope to holistically address all aspects of indoor environmental quality, including air quality, thermal environment, sound, and light. The roster of the steering committee was approved in at the annual meeting in June. The IEQ 2025 Conference will be in Montreal Quebec with a theme of "Rising to

New Challenges: Connecting IEQ with Sustainable Buildings”. AIVC, ISIAQ, IEQ-GA are expected to be involved.

#### **E. Refrigeration/CPCC (REF-CPCC)**

Steve Kujak, the Chair of REF-CPCC, did not have a report to present. Mr. Kujak went over a few things REF-CPCC has been working on:

1. A list of members for the Refrigerants and their Responsible Use PD committee was developed by approved chair and is being reviewed by REF-CPCC.
2. REF-CPCC subcommittees continue to meet.
3. There were no nominations for Milt Garland award.

#### **F. Residential Building Committee (RBC)**

Bill Healy, the Chair of RBC, presented the report. The report is posted on Basecamp as *06F\_RBC\_Report\_to\_TechC\_2023-06-28\_Final\_v3.docx*.

Mr. Healy highlighted the following information items:

1. RBC held an orientation training and full committee meeting on August 29.  
  
RBC solicited nominations for the Residential Buildings Service Award and is reviewing the submission received.
2. A member that had been appointed to RBC indicated he is unable to continue on the committee and RBC is working with President Scoggins to find a replacement.
3. A manuscript entitled “Working from Home and the Impacts on Residential Buildings” has been submitted to ASHRAE Journal and is scheduled to appear in the January issue.

### **6. SPECIAL COMMITTEE/LIAISON REPORTS**

#### **A. Government Affairs Committee (GAC) Liaison Report**

Christopher Phelan, GAC Liaison, presented the report. The report is posted on Basecamp as *06A\_GAC\_Report\_to\_Tech\_Council-Fall 2023 Meeting.docx*. The following information items were highlighted:

1. The committee has established a goal of 100 Government Outreach Events (GOEs) for this year. Since July 1, **14 GOEs** have been held.
2. Several government agencies as well as other organizations (such as the USGBC) have requested briefings on ASHRAE Standards and other technical resources. **We greatly appreciate the work of many Project**

### **Committee members who have provided briefings to these groups!**

Below is a list of briefings conducted:

- U.S. EPA – Energy Star: Standard 100, in particular the upcoming changes to the standard
  - U.S. EPA – Energy Star: Standard 240P
  - U.S. Department of Housing and Urban Development (HUD) – Standard 55
  - U.S. Department of Housing and Urban Development (HUD) – Position Document on Unvented Combustion Devices and IAQ (this briefing will also discuss Standard 62.1 and 62.2)
  - U.S. General Services Administration (GSA) - Standard 100 – the briefing included Leasing as well as Owned Facilities departments from the Public Buildings Service
  - White House Climate Policy Office - Standard 100, in particular the upcoming changes to the standard
  - USGBC – Standard 100
  - U.S. DOE – Office of Project Management – Standard 90.1 (Note: this office is new to Standard 90.1 and needed an introductory briefing.)
3. Since July 1, submitted or delivered **seven** letters/testimony before government bodies; links to these letters can be found here:  
<https://www.ashrae.org/lettersandtestimony>
4. GAC is working on updating the PPIBs (see attached list); most will be updated in Spring 2024, but the Building Electrification PPIB will be updated by February 2024 (when it expires).
5. GAC is working out the details for a new pilot program that will identify and recruit Subject Matter Experts within ASHRAE to communicate technical information effectively to government officials and policy makers. The goal is to launch the pilot program January through June 2024. SMEs will be provided transportation funds; three meetings will be funded for SY23-24.

### **B. Finance Liaison Report**

Mr. Rakheja had nothing new to report.

### **C. Society Planning Liaison Report**

Wade Conlan, PLC Liaison, presented the report. The report is posted on Basecamp as *06C\_TechC Report to TechC from PLC Fall Mtg 2023.pdf*. The following information items were highlighted:

1. Have all of the committees' MBOs for 2023-24 been submitted to TechC as well as PLC?

- a. If yes, has the staff liaison reviewed them for how you tied those back to the current strategic plan?
- 2. Have you taken the Strategic Planning Survey?
  - a. <https://strategicplanfeedback.ashrae.org/>
  - b. It takes less than 10 minutes, depending on how much information you provide.
  - c. Next gather of results will be 1/31/24 and 5/31/24.
- 4. Update on the Next Strategic Plan
  - a. Subcommittee led by Devin Abellon and Dunstan Macauley.
  - b. PLC has sent out proposal to have a company support the development.
  - c. That representative will be at the Winter Conference to view ASHRAE.
  - d. Planning session with the Board of Directors will take place in March (adjacent to the Spring BOD mtg) 2024.
- 5. Please note that there are liaisons assigned to TechC from PLC and you can talk with them or ask questions as needed.

**A2**                    An action item was assigned to Amber Thomas to send out MBOs to TechC and PLC.

#### **D. Society Rules Committee**

The MBOs submitted by SRC have been approved. SRC is looking at the Training PowerPoint to make it more current. Lastly, they are adding guidance to the simplified rules but will have clarification by the Winter Meeting in Chicago.

#### **A. DEI**

Steve Sill reported that there are currently 6 videos out and that they will be initiating some training soon.

#### **B. Task Force on Building Decarbonization (TFBD)**

Luke Leung provided updates on the TFBD activities. Mr. Lueng indicated that there are different documents that are at the 60% draft, including the hospital guide. In response to the concern of no sources for embedded decarbonization, the TFBD is talking with national labs to provide rules for an embodied carbon calculator.

### **7. DOT REPORT**

Stephanie Reiniche reported that there have been several promotions and new hires (listed below) and that the Assistant Manager of International Standards position will

be backfilled.

1. Ryan Shanley was promoted to Senior Manager of Standards.
2. Tanisha Meyers-Lisle was promoted to Assistant Manager of Standards-Administration.
3. Donna Daniel was promoted to Research Administrator.
4. Carl Jordan was hired as Standards Administration Specialist and reports to Tanisha.

#### **8. NEW BUSINESS**

There was no new business.

#### **9. EXECUTIVE SESSION**

There was no business for Executive Session.

#### **10. NEXT MEETING**

Tech Council will meet on Wednesday, January 24<sup>th</sup>, at the Winter Conference in Chicago, Illinois.

#### **11. ADJOURN**

The meeting was adjourned at 9:21 am EST.