

ASHRAE Meeting Minutes
June 2023 Annual Meeting Tampa, Florida
TRG4.IAQP - Indoor Air Quality Procedure Development

Monday, June 26th, 2023
5:00 PM – 7:00 PM EST

Meeting Location – JW Marriott Tampa, Adamo (3)

1. [Call to order](#). Introduction of guests and members; **Please sign in on the sign in sheet.**

Call to order at 5:12 PM

2. Reminder of [Code of Ethics](#):

“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>.)”

3. [Membership](#)

- a. Voting Members Present (Quorum Established?): **9 of 11 Voting Members Present QUORUM**

First Name	Last Name	Membership	Present?
Nick	Agopian	VM	yes
Dean	Tompkins	VM	yes
Tony	Abate	VM	yes
Mattea	Brown	VM	absent
Richard	Fox	VM	absent
Brian	Hafendorfer	VM	yes
Chris	Hsieh	VM	yes
Gemma	Kerr	VM	yes
Caitlin	Naske	VM	yes
Kathleen	Owen	VM	yes
Lexuan	Zhong	VM	yes

Corresponding Members Present:

Art Hallstrom, Charlie Seyffer, Marwa Zaatari, Henry Greist, John Randtke, Vivek Gaur, Tori Binz

Provisional Corresponding Members Present:

Chris Ahne, Christopher Vizcaino, Chrystal Jolliffe, Chris Muller, Sanjeev Himgorami

- b. Members

- i. Voting Members

- 11 Voting Members; (4) rolling off annual meeting 2024: **Richard Fox, Chris Hsieh, Caitlin Naske, Kathleen Owen**
- Contact TRG leadership if interested in becoming a voting member.

- ii. New members verify that membership status is listed on their ASHRAE profile.
 - Go to “My Profile” on the ASHRAE website and either select “Participation” in the upper right-hand corner OR select arrow in the upper left-hand corner then select “Committees” to view active committees and membership status.
 - iii. **Action Item:** *Please update bios online.*
 - Go to “My Profile” on the ASHRAE website and check to make sure information in the “Contact Info” and “Biographical Info” screens are up to date.
- 4. [Approval of Meeting Minutes](#)
 - a. TRG4IAQP Winter Meeting Atlanta, Georgia Sunday February 5, 2023
 - i. Not all VM received meeting minutes for review, draft meeting minutes from Atlanta will be sent to VM following Tampa meeting, mail ballot vote.
- 5. [Chairs Breakfast Report](#)
 - a. Chairs breakfast Sunday June 25, 2023, 7:00-9:00 AM
 - i. ASHRAE task force focusing on decarbonization/whole life carbon.
 - 3-hour course on decarbonization
 - ii. ASHRAE involvement in government affairs and other organizations
- 6. [Liaisons](#)
 - a. **Section Head (Pat Marks)**
 - i. Contact Pat with any issues/concerns.
 - ii. TRG leadership submit activity form by Tuesday night.
 - b. **Liaison (Marwa) - SSPC 62.1**
 - i. Change proposal for IMC to establish IAQP as a method versus an exception, new edition is approx. 5 years out.
 - ii. IAQP calculator with user’s manual voted to go to PPR.
 - iii. Seminars in talk with IAQP topics.
 - c. **Liaison (Nick) - SSPC 62.2**
 - i. (Max Sherman) 62.2 IAQP development
 - Different philosophy than 62.1 – “Harm from Indoor Air Contaminants” https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4409736
 - Went out for APR, received good comments, group is working on responses. Many commenters are requesting background information; waiting for completion of publication to share findings.
 - [3] key contaminants of concern: PM2.5, NO2, and formaldehyde
 - d. **Liaison (Tony) - SSPC 145.2 (RP1838) 145.4 (Caitlin)**
 - i. Standard 145.2
 - Updates to standard to include all air cleaners went through public review. Committee is currently working on addressing/responding to comments.
 - ii. New Standard 145.4 development
 - Meeting monthly, 4 working groups focusing on different sections of the standard. Goal to have a rough draft ready for review by Chicago 2024 Winter Meeting.

- e. **TG2.RAST Reactive Air and Surface Treatment (Kathleen Owen)**
 - i. No new RAST updates
 - ii. 185.5 current focus, committee has not met in Tampa yet.
 - 185.5P “Method of Testing HVAC-duct mounted Devices and Systems and In-Room devices for Particle and Microorganism Removal or Inactivation in a Chamber with a Recirculating Duct System” Kathleen (look up name) and add to agenda
 - Add Kathleen to future agendas to report on 185.5P progress.
- f. **Liaison (Tony)-AHAM AC5 (Chamber Test)**
 - i. No update
- g. **New Liaisons?**
 - i. (Chris Muller) Addendum to 90.1; maximum OA consideration, presents good opportunity for IAQP, will keep the group updated.

7. [Research](#)

Updates on:

- a. 1869-WS (Work Statement): Evaluation of VOCs with Respect to Development of Revised Standard 62.1 Indoor Air Quality Procedure (IAQP) Design Compounds and Design Limits. Gemma Kerr
 - i. Update from Tampa:
 - Three bidders on the project. Bids were reviewed and a contractor was selected, approval of contractor selection will be voted on by TC 2.3 in Tampa.
- b. RP-1838: Emerging gas-phase electronic filtration technologies and ASHRAE 145.2 test standard
 - i. Update from Tampa:
 - Submitted and accepted by ASHRAE. Remove item from the list.
- c. Update on 1935-RTAR from TC 2.3 “Effects of Increased Use of Sanitation Products on Indoor Air Quality”
 - i. Update from Tampa
 - Correct title “Effects of increased use of surface disinfectants and hand sanitizers on indoor air quality” update in future agendas.
 - Chang Seo, Kathleen, Jensen, Marilyn, and Paula submitted RTAR; received on August 17th.
 - RTAR approved with conditions, RAC comments were never received. Paula L will contact Donna and Bill for comments/official report and connect with Chang Seo to see if she is still interested.
- d. Update on RTAR “Evaluation of Electronic Air Cleaner Performance as Equipment Ages” (John Randtke)
 - i. Update from Tampa
 - On hold, waiting on development of 185.5P
 - Brian K has been assisting efforts. Nick A. and Jeff R. are interested in helping.
- e. Update on potential new RTAR out of TC2.4 involving emissions from gas stoves. (John Randtke)
 - i. Update from Tampa

- Program on the docket for Chicago, either a forum or a debate. Has a group of people interested in being program speakers. Goal of the program is to gain public feedback and find gaps in current research and studies.
- 62.2 related topics on unvented combustion devices.

8. [General Discussion](#)

a. IAQP Calculators

- i. Introduction/Overview (Marwa)
- ii. Are there any other 62.1 Calculators available (VRP, Natural Ventilation)? Does the ASHRAE website allow one to access such calculators?
- iii. Tampa discussion:
 - Calculator follows what is dictated in the standard, can not deviate from what the standard outlines.
 1. Comments on the standard itself need to be sent to 62.1 not to the calculator/user's manual during public review.
 - Reduction of OA based on design compounds DCs (previously contaminants of concern COC) for single and multiple zone systems. Manufacturers plug in their technologies Ef values.
 - User's manual walks through a multiple zone calculation, greater complexity than a single zone system.
 - Marwa is willing to set up an interim Zoom Meeting to walk through an example if there is interest from the group.
 - Appendix F in 62.1 does not currently include CADR as a metric to be used for the mass balances. A CMP to 62.1 would need to first be submitted for the inclusion of CADR before CADR calculations can be added into the IAQP calculator. 241 has calculations relating CADR to Ef.
 - TRG Development of [2] working groups:
 1. Write and submit a CMP to 62.1 to include CADR, look into the equations outlined in Standard 241. (Members interested: Kevin, John R.)
 2. Review IAQP calculator and user's manual when available during public review and submit comments. Could get permission from ASHRAE to allow the group to get started prior to being posted online (Members interested John R, Nick, Dean, Tori)

b. The IAQP addresses PM2.5 and Design Compounds (DCs or VOCs)

- i. Support for the development of an RTAR to fill in the information gaps for things not included in WS 1869 such as bioaerosols, ozone, PM, inorganics, CO2, and SVOCs in buildings.
- ii. Update from Tampa:
 - (Gemma) 15 DCs in 62.1, predominantly VOCs. RP looking into DC VOCs and their validity but will not address other compounds/inorganics such as CO2, SO2 and NO2.
 - (Pawel W) Presentation tomorrow Seminar 41: Presentation 3: The Role of CO2 in Indoor Environments. ASHRAE Position Document on Indoor Carbon Dioxide

1. CO2 as an indicator/marker of adequate ventilation for a space versus CO2 presence and effect on occupant health
 - 62.1 does not define CO2 as a DC
 - (Nick) 62.2, PM2.5 main consideration for health
- c. Would like the TRG's mission to be supporting the development of a top tier standard and spoke on his perceived usefulness of TRG4.IAQP (Pawel)
 - i. Start with a simple list of contaminants/pollutants of concern.
 - ii. Determine if the list is consistent from time to time and location to location.
 - iii. VRP does not require checking the outdoor or indoor quality.
 - iv. Discussion in Tampa
 - OA contaminants are a consideration as part of 62.1.
 - Standard does not require monitoring of contaminants present in a space. Create a simple list of contaminants that are measurable, the ability to monitor other contaminants (other than CO2) is available.
 - Available and cost sensitive sensors are sensitive to alcohols and do not have high sensitivity.
 - Monitoring is essential to validate IAQ, performance metrics.
 - (Tony A) TG2.IAQMD Indoor Air Quality Monitoring Devices. The group will be looking into what constitutes performance of a sensor and how to design an indoor quality monitoring system within a space.
- d. 62.2 development of IAQP (Nick)
- e. Change proposal for non-attainment zones, which will make air cleaning a requirement, should the TRG suggest language to the committee as this change would make it nearly IAQP?

This item will be removed from future agendas.

- f. Leadership of the TRG4 supports the Motion, Discussion, and Voting on the interest of becoming a TC.
9. [New Business?](#)
- a. (Matt M) TG9.SPACE "Extraterrestrial and Deep Space Environmental Control Systems"
 - i. Looking at current standards and how they can be used/adapted to be relevant in extraterrestrial environments.
 - ii. 62.X; spaces require 0% OA while maintaining same standards as ventilation and IAQ.

[If Time Permits:](#)

- a. What is the process in applying IAQP on a project? What are some outcomes of existing IAQP projects?
 - i. The TRG is looking for volunteers to give a short presentation regarding the life of an IAQP project.

- John has prepared a presentation, set up an interim meeting for this presentation. The end of the presentation contains action items the TRG4 may be interested in addressing.
 - Joe Pessa, Jeff Roseberry, and John R.
 - ii. Brian H. – “Book of 100 Spaces”
 - b. Discussion on ventilation rates and IAQP and real-world application
 - i. How does a design engineer with experience in using the VRP become equally skilled at performing an IAQP assessment?
 - ii. Research has been conducted on mirror buildings where one uses VRP and the other IAQP.
10. Adjournment

Kathleen makes motion to adjourn, meeting adjourned.