

**INTERSOCIETY LIAISON SUBCOMMITTEE/**

**INTERNATIONAL STANDARDS ADVISORY SUBCOMMITTEE**

**MEETING MINUTES**

**ASHRAE Annual Conference Meeting, Virtual**

**June 14, 2021**

*These are not the official minutes until approved by ILS/ISAS*

**ILS/ISAS Action Items**

**As of June 14, 2021**

**Updated Items Noted in Red**

| **Open Action Items – June 2021 Virtual Annual Meeting, January 2021 Virtual Winter Meeting, and June 2020 Virtual Annual Meeting** | | | |
| --- | --- | --- | --- |
| **AI#** | **Open Action Item** | **Assigned** | **Status** |
| 1 | An action item was assigned to J. Hogeling to develop a procedure to outline how ASHRAE PCs/TCs can obtain copies of CEN standards. J. Hogeling has been working on this item but has encountered difficulties in proceeding via virtual meetings. CEN rules requiring focus on European interests and organizations, financial support from official liaisons have further complicated matters. J. Hogeling clarified that members of CEN committees do not received complimentary copies of published standards. Presently, there are no ASHRAE project committees or technical committees liaising with CEN or ISO. It was proposed that the relevant ISI task force working groups can encourage and guide ASHRAE PCs and TCs in establishing formal liaison relationships with ISO and CEN TCs to get access to documents. This will be a process that will require time to accomplish and will remain ongoing. It was noted that there may be cross-permissions for joint ISO/CEN working groups; J. Hogeling to reach out to Brussels to request clarification of procedures. ISO has not provided guidance on any changes in procedures between ISO and CEN systems which may have occurred. It was requested that R. Shanley reach out to ISO to inquire about system capabilities in this regard. Ongoing. | J. Hogeling and R. Shanley | Open |
| 2 | An action item was assigned to R. Shanley to develop a plan in writing that establishes how ISO standards can be made available to project committees and how to keep referenced standards on file at ASHRAE if ASHRAE is the secretariat.  Stephanie Reiniche has clarified that ASHRAE should have access to published copies for all ISO/TCs for which ASHRAE is the TAG Administrator; this includes subcommittees and working groups of TCs for which ASHRAE is not the Secretariat. Copies of these ISO standards are kept on file by staff in a dedicated folder on the ASHRAE server. If ASHRAE is not the TAG Administrator, or the requested standard is not currently on file, a request for the standard must be submitted to ANSI.  Procedure for request from ASHRAE project committees takes the same form in either scenario: a request for a copy of the ISO standard is to be sent from the PC chair to the MOS-I, in the following format:  “SPC XXX would like to request a copy of ISO Standard XXXX for use in consideration of adoption by reference and harmonization with the ISO Standard.”  This procedure will be added to the PCs Toolkit, PCs Guide to PASA, and proposed revised “ASHRAE International Standards Activities” webpage as further described in Action Item 3 below. Ongoing. | R. Shanley | Open |
| 3 | An action item was assigned to R. Shanley to send Appendix 1 from the Board Ad Hoc report to Technology and Marketing staff to see if that gets the ball rolling on an international focused area on the ASHRAE website.  R. Shanley to work with ASHRAE Marketing staff. There is an existing “International Secretariats and U.S. TAGs” page under the “Standards and Guidelines” section of the ASHRAE website. This page can be revised and expanded to add additional content (including Appendix 1 from the Board ad hoc report); title of page would also require revision. Would also need to add sections for ILS/ISAS, ISI task force, instructions for requesting copies of ISO standards, etc. R. Shanley to work with ASHRAE Marketing staff to make this page more accessible from the ASHRAE homepage; at present, even if one is aware of the page, it is difficult to find where it can be accessed. Ongoing. | R. Shanley | Open |
| 4 | An action item was assigned to R. Shanley to assemble a running list of ISO technical committee and subcommittee meetings (excluding working group meetings). This has been added to the agenda as Attachment B and will be kept current going forward. It was requested that scheduling of the pertinent ISO working group meetings be added to the list. This information should also be regularly made available to the membership of the corresponding U.S. TAGs. The vice-chairs of TAC and Standards Committee (as members of the ISI task force) can also communicate this information to their respective committees. Ongoing. | R. Shanley | Open |
| 5 | An action item was assigned to R. Shanley to reach out to the leadership of ASHRAE TC 6.5, Radiant Heating and Cooling, to inquire if any of their members would be interested in participating in Panel 8 of the U.S. TAG to ISO/TC 205 (corresponding to ISO/TC 205/WG 8, Radiant Heating and Cooling Systems). There are presently only two members assigned to Panel 8, and the panel leader, Richard Watson, has been unresponsive for some time. Ongoing. | R. Shanley | New |
| 6 | An action item was assigned to R. Shanley to post the draft ISO/ASHRAE Standards Matrix (Attachment D to the agenda) to the ISI Basecamp site. It was additionally requested that the draft be shared via Microsoft Office 365 to allow for multi-user real time editing. Ongoing. | R. Shanley | New |

| **Closed Action Items – June 2021 Virtual Annual Meeting, January 2021 Virtual Winter Meeting, and June 2020 Virtual Annual Meeting** | | | |
| --- | --- | --- | --- |
| **AI#** | **Closed Action Item** | **Assigned** | **Status** |
| 1 | An action item was assigned to D. Erbe and D. Halel to draft a document which proposes to move ILS/ISAS to a subcommittee of Technology Council. Complete. | D. Erbe & D. Halel | Closed |
| 2 | An action item was assigned to R. Shanley and D. Erbe to craft messaging that will go out to ASHRAE TCs/PCs/TAGs to update the matrix. This should be put on the ASHRAE website and requests for updates sent to TCs/PCs/TAGs. This item would now be redundant to tasks assigned to the ISI task force. ILS/ISAS will cede this item to the task force. Closed. | R. Shanley & D. Erbe | Closed |
| 3 | An action item was assigned to J. Hogeling and E. Khalil to draft a table for criteria for proposed International Standards participation award for review by ILS/ISAS. Discussion had been tabled pending outcome of proposal to move to standing committee of Technology Council. In light of formation of ISI task force, this item will not move forward at this time. Closed. | J. Hogeling and E. Khalil | Closed |
| 4 | An action item was assigned to R. Shanley to work with other ASHRAE staff to determine what email can be sent and to craft language to get feedback on the following questions:   * Are you involved in any standards development activities (country, regions, ISO)? * Would you be interested in helping to get ASHRAE standards adopted/promoted internationally?   Staff to draft message/questions and circulate if approval received to send email.  This item will be superseded by tasks assigned to the ISI task force. Closed. | R. Shanley | Closed |
| 5 | An action item was assigned to R. Shanley to grant access to the ISI Basecamp site for all ILS/ISAS members who are not also members of the ISI task force. Per Stephanie Reiniche, ASHRAE Director of Technology, access to Basecamp site is limited to members of the ISI task force and staff. Closed. | R. Shanley | Closed |

# 1. Call to Order and Introductions

The ILS/ISAS 2021 Virtual Annual Meeting was called to order on June 14, 2021 at 9:06 AM EDT.

**Introductions**

Members of the committee, staff, and guests were greeted. The attendees were as follows:

|  |  |
| --- | --- |
| **Members Present**  Drake Erbe (Chair)  Steven Bushby  Michael Gallagher  Danny Halel  Jaap Hogeling  Dr. Essam Khalil  Dennis Knight  Kevin Kwong  **Members Not Present**  Robert Burkhead | **Staff Present**  Ryan Shanley, MOS-I, Staff Liaison  **Guests Present**  None |

# 2. Adoption of the Agenda

D. Erbe proposed that the agenda be modified to add a discussion item regarding incoming ILS/ISAS membership for the 2021-2022 Society Year, as well as changes in scope of responsibilities in response to formation of International Standards Interaction (ISI) task force; this was added to the agenda as Item 16.

It was moved by S. Bushby and seconded by J. Hogeling:

That the ILS/ISAS Virtual 2021 Annual Conference Meeting Agenda be approved as modified.

**MOTION PASSED.** 6-0-3, Chair Voting (CV)[[1]](#footnote-1)

# 3. Approval of Minutes – January 2021 Virtual

It was moved by S. Bushby and seconded by D. Halel:

That the ILS/ISAS Virtual 2021 Winter Conference Meeting Minutes be approved as presented. (Refer to [MOTION 1](#Motion_1) of the “Summary of Motions” section below).

**MOTION PASSED.** 6-0-3, Chair Voting (CV)[[2]](#footnote-2)

# 4. Secretary’s Report

The list of ISO/TC and SC/WG chairs, and TAG leadership was presented and reviewed, including term end date and number of terms. The list will be included on future agendas for regular review. Refer to [Attachment A](#Attachment_A) below.

The moratorium on ISO in-person meetings has been extended through September 30th, 2021. This deadline is being reviewed by ISO leadership on monthly basis to determine if it should be extended, with an update typically provided to ISO members and committee managers during the first week of the month. However, the ISO President’s Committee has agreed to allow technical committees to request an exception to hold hybrid on-site and virtual meetings from August 1st, 2021 onward. These requests are to be reviewed and approved by the President’s Committee on a case-by-case basis. Virtual TC, SC, and WG meetings are ongoing.

ISO/TC 142 meetings which had been scheduled in the Netherlands for December 2021 are being replaced by virtual meetings, dates to be finalized. ISO/TC 163 and ISO/TC 205 joint meetings scheduled for September 2021 in Moscow were replaced by virtual meetings; meetings in Moscow will be postponed to September 2022. Meetings previously scheduled in Atlanta for September 2022 will be moved to September 2023.

An action item was assigned to R. Shanley to add working group meetings to the running list of ISO technical committee and subcommittee meetings to be included in future agendas. Additionally, the current list is to be made available to the relevant U.S. TAGs and to the ISI task force. Refer to [Attachment B](#Attachment_B) below.

# 5. Report on the Result of the ILS/ISAS Proposal to Standards Committee on Establishing a Standing Committee Reporting to Technology Council in Response to the Board Ad Hoc Recommendations, and the Establishment of the International Standards Interaction Task Force

D. Erbe provided an overview of the process of the recommendation to Standards Committee and upward that transpired at the 2021 ASHRAE Winter Meeting. He thanked the committee for a job well done, since the proposal was approved at both the Standards Committee and Technology Council levels. The BOD ExCom decided that due to the ongoing planning of the reorganization of ASHRAE, it was not appropriate to establish another standing committee; however, it was recognized that the proposed work was important and should not face further delay. President Gulledge and Incoming President Schwedler established the International Standards Interaction Task Force (ISI) co-chaired by D. Erbe and S. Bushby to plan the work of the recommendation. S. Bushby added that due to the planning phase, the ISI TF would include in its current list of tasks the recommendation of where it should be placed in the organization.

# 6. Review of Action Items from 2021 Virtual Winter Meeting, and 2020 Virtual Summer Meeting

R. Shanley and D. Erbe provided an update on the status of the action items assigned at the 2021 Annual Virtual Meeting and 2020 Virtual Annual Meeting. There was a review of closed action items from the 2020 Orlando Winter Meeting and open action items from the 2020 Orlando Winter meeting and the 2020 Annual Virtual meeting.

In summary, there are five closed action items, four open action items, and two new action items as indicated above.

# 7. Regional Review of Standards Activities

1. Europe (J. Hogeling) – European Energy Performance of Buildings Directive (EPBD), as revised in 2018, is requiring Europe to use several of the ISO 52000 series standards. Further revisions to the EPBD will be needed, with a focus on decarbonization of building stock. The directive from the European Commission should support the implementation of decarbonization policy. The importance of the role of standards may increase in the coming years. Additionally, ASHRAE has formed a Task Force for Building Decarbonization, and is also developing a decarbonization position document. J. Hogeling has requested to address the leadership of ISO/TC 205 on this topic; Action: D. Erbe (as chair of ISO/TC 205) suggested that an offline meeting be scheduled in July to discuss this and other topics.
2. North America (D. Erbe, et. al.) – Building regulations are fragmented and uncoordinated across jurisdictions. The Department of Energy (DOE) has announced that it will be hosting a two-day workshop on the future of building energy codes; the sessions will be held virtually on Tuesday, June 22nd and Thursday, June 24th. There is a move at the government level to begin using carbonization as a metric. The International Code Council has moved shifted from functioning as a codes body to operating more as a standards development organization; this can put the International Energy Conservation Code (IECC) into competition with ASHRAE Standard 90.1. Canada is looking at the EPDB (ISO 52000 series) for their building codes; these ideas are also finding their way into California codes. One of the ways the (ISI) Task Force can help is to address the need for harmonization which can reduce confusion for multinational corporations, engineers, and organizations. Many U.S. jurisdictions are using building codes which are several cycles behind the current codes.
3. Middle East/Asia-Pacific (E. Khalil) – There is a focus on carbon credits, energy standards in general. The ISO 52000 series is being translated into Arabic. E. Khalil is serving as chair of a new enforcement committee under the Arab League to ensure compliance with energy conditioning standards and codes. To receive permission for any building project will require testing for compliance with refrigerant standards (most likely ISO 817 and ASHRAE Standard 34) and energy standards (EPBD or ISO 52000 series); this applies to the whole building, not to individual systems or units. Presently this will only apply to new construction projects. There is also a new training program for qualification of refrigerant handling inspectors; personnel will require this certification in order to run refrigeration plants and handle refrigerants.

# 8. ISO/TC 163, ISO/TC 205, JWG4 September Meetings

1. The ISO/TC 163, ISO/TC 205, and JWG4 meetings scheduled to be held on-site in Moscow in September 2021 will be replaced by virtual meetings, due to pandemic restrictions.
2. Moscow invitation to host in 2021 has been withdrawn; the meetings will be postponed to 2022.
3. ANSI had previously issued an invitation to host in 2022; this invitation has been withdrawn. ANSI has issued an invitation to host in 2023.
4. ISO moratorium on in-person meetings presently extended through September 30th, 2021. ISO President’s Committee is accepting requests from technical committees for an exception to the moratorium in order to hold hybrid on-site and virtual meetings, for meetings scheduled beginning August 1st, 2021. These requests will be reviewed by the ISO President’s Committee and approved on a case-by-case basis.

# 9. Report from TAG Chairs

1. ISO/TC 59/SC 13 (D. Knight) – ISO 19650 Parts 1, 2, 3, and 5 have been published; Part 4 will be issued for DIS ballot later in the summer. There has been a formal request from NIBS to the ASHRAE BIM MTG to begin the process of forming a standard project committee to write an annex to adopt ISO 19650 Parts 1, 2, 3, and 5 in the U.S. There is ongoing work to align BSR/ASHRAE Standard 224P, *Standard for the Application of Building Information Modeling*, with ISO 19650; NIBS is a cosponsor of Standard 224P. NIBS has been working with the Centre for Digital Built Britain on adoption of ISO 19650 and associated annex; this will likely serve as the model for the U.S. adoption. Members of the ASHRAE BIM MTG have showed interest in getting involved with the U.S. TAG to ISO/TC 59/SC 13. Due to upcoming activity of ISO/TC 59/SC 13/WG 11 and ISO/TC 59/SC 13/WG 13, there may be an effort in the near future to reorganize the U.S. TAG to set up advisory panels corresponding to each working group.
2. ISO/TC 86 (D. Halel) – ISO/TC 86/SC 8 will hold a virtual plenary meeting on June 22nd, 2021. ISO/TC 86/SC 1 has scheduled a virtual plenary meeting for September 29th, 2021. ISO/TC 86/SC 1/WG 1 is holding virtual meetings regularly to work on revision of the ISO 5149 series standards (corresponding to ASHRAE Standard 15). Laure Meljac from France is new WG 1 convenor. ISO/TC 86/SC 7/WG 3, “Commercial refrigerated display cabinets” will meet virtually on June 23rd, 2021; regular meetings are being held approximately every three weeks. ISO/TC 86/SC 6/TG 13 is tasked with looking at new ways to characterize performance metrics for ISO/TC 86/SC 6; a comprehensive report will ultimately be produced. TG 13 membership consists of two experts from each country represented. ISO/TC 86/SC 6/WG 10 has published ISO 21773, which references ASHRAE Standard 84 throughout, although not necessarily in a normative capacity.
3. ISO/TC 142 (K. Kwong) – ISO/TC 142 plenary meetings which were scheduled to be held on-site in Delft, Netherland from November 30th, 2021 to December 3rd, 2021 will be replaced by two virtual meetings in December; the dates for these meetings are yet to be determined. Virtual working group meetings are ongoing. There was a resolution approved in May to establish an A-Liaison relationship between the International Ultraviolet Association (IUVA) and ISO/TC 142. A MOU was also signed between ASHRAE and IUVA in May, which will lead to standards development and has initiated a new proposed Standard 185.4P, *Method of Testing In-Room Ultraviolet Devices and Systems for Microbial Inactivation on Surfaces in a Test Room*. There is ongoing work in the joint working group between IEC/TC 59 and ISO/TC 142 (JWG17) on a portable room air cleaner test method for particulates, gases, and microbial (IEC 83086 series). Some IEC subworking group members attended the ASHRAE SSPC 52.2 meeting on June 14th for discussion on a proposed addendum for bioaerosol inactivation testing.
4. ISO/TC 163 and JWG4 (D. Erbe)
5. ISO/TC 163 - A proposal for a new project regarding underfloor air distribution systems (ISO/NP 7615) is currently being balloted to ISO/TC 163/SC 1. This proposal was reviewed during the joint meeting of the U.S. TAGs to ISO/TC 163 and ISO/TC 205; the joint TAG voted that the U.S. position will be to disapprove with comments. It was felt by the joint TAG that the proposal fell within the scope of ISO/TC 205, rather than that of ISO/TC 163; furthermore, it was felt that there would not be interest in participating by the U.S. industry, due to a focus on different air distribution models. It was requested that the chair of the U.S. TAG to ISO/TC 86 reach out to the TAG membership to gauge interest and expertise in this topic within the ISO/TC 86 TAG.
6. ISO/TC 163/JWG 4 - Presently the only currently active project within JWG 4 is in ISO/TC 163/JWG 4/TG 7, related to primary energy factors. Other projects are being contemplated. A letter has been sent to ISO TMB regarding guidelines for SMART standards by the chairs of ISO/TC 163 and 205; no response to letter has been received as of the time of the meeting. This will be followed up on with the ISO TMB.
7. ISO/TC 205 (S. Bushby) – There has been a scope conflict issue between ISO/TC 205 and ISO/TC 274 for some time regarding lighting; action on this topic has been delayed until a face-to-face meeting can be held. There is a desire not to set a precedent for one ISO/TC poaching a working group from another ISO/TC. There have also been some issues with the implementation of the Vienna Agreement related to the ISO 16404 series standards under ISO/TC 205/WG 3. Some of these were originally developed under CEN lead and are largely used in Europe; CEN wants to revise at least some of the standards under CEN lead, as there is feeling that ISO countries do not understand the Vienna Agreement process. S. Bushby suggested that a review of the Vienna Agreement procedures could be a part of the TPM presentation during the ISO/TC 205 plenary meetings. TAG issues continue with recruitment of needed expertise, participation of experts; it is hoped that the ISI task force can assist with recruitment. The U.S. TAG chair has still been unable to recruit a vice-chair for the TAG.

# 10. Discussion on Proposal from China Regarding the Possible Formation of New ISO/TC on District Energy

D. Erbe presented a proposed new ISO TSP 299 on District Energy by SAC (China). This outlines many of the concerns that resulted in the formation of the ISI Task Force. There was a limited time for ASHRAE to respond to ANSI so that a decision of support/non-support could not be obtained, and there was no established methodology for this response. The proposal was more strategic in nature as S. Bushby outlined and was overly broad and spanned multiple disciplines and industries.

# 11. Review of ISO/ASHRAE Standards Matrix

This matrix was briefly reviewed and will remain a standing agenda item for this committee at future meetings. It was requested that the TAG chairs review the matrix and provide updates to R. Shanley. An action item was also assigned to R. Shanley to provide the matrix to the ISI task force for review and feedback. Refer to [Attachment C](#Attachment_C) below.

# 12. Update on ANSI International Committees

An update was provided which was prepared by R. Shanley on the activities of the ANSI international committees; the ANSI ISO Council (AIC), ANSI International Forum (AIF), and the ANSI International Policy Advisory Group. Refer to [Attachment D](#Attachment_D) below.

# 13. Review of Incoming ILS/ISAS Membership Roster and Work Plan

The incoming ILS/ISAS membership roster for the 2021-2022 Society Year was reviewed. D. Erbe acknowledged the incoming chair, D. Knight, and thanked the members for all of their hard work. This resulted in a discussion of the next steps for ILS/ISAS. This discussion resulted in two motions for ILS/ISAS recommendations to Standards Committee. Refer to [Motion 2](#Motion_2) and [Motion 3](#Motion_3) of the “Summary of Motions” section below.

# 14. Review of New Action Items and Other Business

No other business was presented.

# 15. New Business

No new business was presented.

# 16. Next Meeting

The next meeting is scheduled for Friday, January 28th, 2022 at the ASHRAE Winter Conference in Las Vegas NV.

# 17. Adjournment

The meeting was adjourned at 12:04 PM EDT.

# Summary of Motions

**MOTION 1:** It was moved by S. Bushby and seconded by D. Halel: That the ILS/ISAS Virtual 2021 Winter Conference Meeting Minutes be approved as presented. **MOTION PASSED.** 6-0-3 (Yes-No-Abstain), Chair Voting (CV).

**MOTION 2:** It was moved by D. Knight and seconded by S. Bushby: That ILS/ISAS recommend to Standards Committee that ILS/ISAS meetings continue to be held virtually after the resumption of in-person meetings. **MOTION PASSED.** 8-0-1 (Yes-No-Abstain), Chair Voting (CV).

**MOTION 3:** It was moved by S. Bushby and seconded by D. Knight: That ILS/ISAS recommend to Standards Committee that the ILS/ISAS meeting slot at future in-person conference be assigned to the ISI task force from the 2022 Winter Las Vegas Meeting onward, until at least such a time as the task force completes its work. **MOTION PASSED.** 8-0-1 (Yes-No-Abstain), Chair Voting (CV).

# ATTACHMENTS TO MEETING MINUTES

**ATTACHMENT A**

**ISO/TC AND SC/WG, TAG LEADERSHIP**

| **ISO/TC, SC, WG Leadership** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **TC** | **SC** | **WG** | **Chair or Convenor** | **First Term Starting** | **Term** | **Term limit per ISO** | **Notes** |
| 86 | n/a | n/a | Drake Erbe | 2015 | ends in 2021 | 9 years total |  |
| 86 | 1 | n/a | Jay Kohler |  | ends in 2022 | 9 years total | First 3-year term |
| 86 | 1 | 1 | Laure Meljac |  | ends in 2023 | No term limit | First 3-year term |
| 86 | 8 | n/a | Bill Walter |  | ends in 2022 | 9 years total | First 3-year term |
| 86 | 8 | MA 817 | Tom Watson |  | ends in 2021 | No term limit | First 3-year term |
| 86 | 8 | 5 | Bill Walter |  | ends in 2023 | No term limit | Reappointment approved May 2021 |
| 86 | 8 | 7 | Felix Flohr |  | ends in 2023 | No term limit |  |
| 86 | 8 | 8 | Donna Bossman |  | ends in 2022 | No term limit | First 3-year term |
| 86 | 4 | n/a | Dong Mingzhu |  | ends in 2022 | 9 years total | First 3-year term |
| 86 | 6 | n/a | Matthias Meier |  | ends in 2026 | 9 years total | JISC recommended for six-year term (first term) |
| 86 | 6 | 1 | Rusty Tharp |  | ends in 2022 | No term limit |  |
| 86 | 6 | 3 | Robert Brown |  | ends in 2022 | No term limit |  |
|  |  | 10 | Dr. Jun-Young Choi |  | ends in 2021 | No term limit |  |
|  |  | 12 | Dr. Jun-Young Choi |  | ends in 2021 | No term limit |  |
|  |  | TG13 | Matthias Meier |  | ends in 2023 | No term limit |  |
| 86 | 7 | n/a | Davide Zannese |  | ends in 2021 | 9-year term limit | Italy (UNI) is secretariat |
| 205 | n/a | n/a | Drake Erbe | 2019 | ends in 2022 | 9-year term limit |  |
| 205 | n/a | AG1 | Mr. H.A.L. van Dijk |  | ends in 2021 | No term limit | First 3-year term. Ballot for reappointment to ISO/TC 205 2021-06-09 to 2021-07-09 |
| 205 | n/a | JWG11 | Drake Erbe |  | Ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 1 | Gerard Senior |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 2 | Convenor – Dr. Toshihiro Nonaka |  | ends in 2023 | No term limit | Appointed by ballot resolution, 2020 |
| 205 | n/a | 3 | Steve Bushby |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 5 | Stephen Turner |  | ends in 2023 | No term limit |  |
| 205 | n/a | 7 | Marc Bourdier |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 8 | Kwang Woo-Kim |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 9 | Johann Zirngibl |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |
| 205 | n/a | 10 | Masato Miyata |  | ends in 2022 | No term limit | Reappointed in Seoul, 2019 |

| **US TAG Leadership** | | | |
| --- | --- | --- | --- |
| **TAG** | **Panel** | **Chair/Panel Leader** | **Notes** |
| 86 |  | Danny Halel | Chair |
| Panel 1 | Jay Kohler |  |
| Panel 4 | Stephen Schafer |  |
| Panel 6 | Rusty Tharp |  |
| Panel 7 | Timothy Anderson |  |
| Panel 8 | Bill Walter |  |
|  | | | |
| 205 |  | Steve Bushby | Chair |
|  | TBD | Vice Chair |
| Panel 1 | Hoy Bohanon |  |
| Panel 2 | Cyrus Nasseri |  |
| Panel 3 | Dave Robin |  |
| Panel 4 | N/A | (INACTIVE) |
| Panel 5 | Walter Grondzik |  |
| Panel 7 | Nancy Clanton |  |
| Panel 8 | Richard Watson |  |
| Panel 9 | Danny Halel |  |
| Panel 10 | Gerald (Jerry) Kettler |  |
| Panel 11 | Stanley Yee |  |
|  | | | |
| 163 |  | Drake Erbe | Chair |
|  | Stanley Yee | Vice Chair |
| Panel 1 | Maure Creager |  |
| Panel 2 | D. Charlie Curcija |  |
| Panel 3 | Stanley Yee |  |
|  | | | |
| 163/205 | JWG 4 | Drake Erbe | Report |
|  | | | |
| 59/SC 13 | N/A | Dennis Knight | Chair |
|  | | | |
| 142 |  | Kevin Kwong | Chair |
|  | Jonathan Rajala | Vice Chair |
| Panel 1 | Open |  |
| Panel 2 | Dean Saputa |  |
| Panel 3 | Geoffrey Crosby |  |
| Panel 4 | Andrew Stillo |  |
| Panel 5 | Bob Burkhead |  |
| Panel 7 | Open |  |
| Panel 8 | Matt Middlebrooks |  |
| Panel 9 | Open |  |
| Panel 10 | Satish Dinakaran |  |
| Panel 11 | Open |  |
| Panel 12 | Geoffrey Crosby |  |
| Panel 13 | Open |  |

**ATTACHMENT B**

**UPCOMING ISO TECHNICAL COMMITTEE AND SUBCOMMITTEE MEETINGS**

|  |  |  |  |
| --- | --- | --- | --- |
| **COMMITTEE** | **DATE** | **START TIME – END TIME** | **LOCATION** |
| ISO/TC 86/SC 8 | 22 June 2021 | 7:00 AM EDT – 9:00 AM EDT | Virtual |
| ISO/TC 163/JWG 4 | 20 September 2021 | 6:00 AM EDT – 9:00 AM EDT | Virtual |
| ISO/TC 205/JAG 1 | 20 September 2021 | 10:00 AM EDT – 11:00 AM EDT | Virtual |
| ISO/TC 205 | 21 September 2021 | 8:00 AM EDT – 10:00 AM EDT | Virtual |
| ISO/TC 163/SC 3 | 22 September 2021 | 6:00 AM EDT – 9:00 AM EDT | Virtual |
| ISO/TC 163/SC 2 | 22 September 2021 | 9:15 AM EDT – 12:15 PM EDT | Virtual |
| ISO/TC 163/SC 1 | 23 September 2021 | 6:00 AM EDT – 9:00 AM EDT | Virtual |
| ISO/TC 163/ISO/TC 205 | 23 September 2021 | 9:15 AM EDT – 11:15 AM EDT | Virtual |
| ISO/TC 163 | 24 September 2021 | 7:00 AM EDT – 10:00 AM EDT | Virtual |
| ISO/TC 205 | 25 September 2021 | 7:00 AM EDT – 10:00 AM EDT | Virtual |
| ISO/TC 86/SC 1 | 29 September 2021 | 7:00 AM EDT – 9:00 AM EDT | Virtual |
| ISO/TC 59/SC 13 | 27 October 2021 | 6:00 AM EDT – 11:00 AM EDT | Virtual |
| ISO/TC 142 | December 2021 | Dates and times to be set. | Virtual |

**ATTACHMENT C**

| **ISO/ASHRAE STANDARDS MATRIX** | | |
| --- | --- | --- |
| **ASHRAE SPCs, GPCs, TCs, Published Standards & Guidelines** | **ISO Technical Committee** | **Related ISO, IEC, and CEN TCs** |
| **Refrigeration systems, components, system safety and containment** | | |
| SSPC 15, Safety Standard for Refrigeration Systems  SPC 147, Reducing the Release of Halogenated Refrigerants from Refrigerating and Air-Conditioning Equipment and Systems  SPC 173, Method of Test to Determine the Performance of Halocarbon Refrigerant Leak Detectors  SPC 196, Method of Test for Measuring Refrigerant Leak Rates  TC 3.8, Refrigerant Containment  TC 10.1, Custom Engineered Refrigeration Systems  TC 10.3, Refrigerant Piping  TC 10.5, Refrigerated Distribution and Storage Facilities | **ISO/TC 86, Refrigeration and air-conditioning** SC 1, Safety and environmental requirements for refrigerating systems  WG 1, Safety and environmental requirements for refrigerating systems and heat pumps  ISO 5149:1993, Mechanical refrigerating systems used for cooling and heating – Safety requirements  ISO/DIS 5149, Refrigerating systems and heat pumps – Safety and environmental requirements (4 parts)  ISO/DIS 13971, Refrigerating systems and heat pumps – Flexible pipe elements, vibration isolators, expansion joints and non-metallic tubes – Requirements, design and installation  ISO/DIS 14903, Refrigerating systems and heat pumps – Qualification of tightness of components and joints | **CEN/TC 182, Refrigerating systems, safety and environmental requirements**  EN 378, Refrigerating systems and heat pumps - Safety and environmental requirements  **IEC 61C, Safety of refrigeration appliances for household and commercial use**  IEC 60335-2-24, Household and similar electrical appliances - Safety - Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers  IEC 60335-2-89, Household and similar electrical appliances - Safety - Part 2-89: Particular requirements for commercial refrigerating appliances with an incorporated or remote refrigerant unit or compressor |
| **Compressors and condensing units** | | |
| SPC 20, Method of Testing for Rating Remote Mechanical –Draft Air-Cooled Refrigerant Condensers  SPC 64, Methods of Laboratory Testing Remote Mechanical-Draft Evaporative Refrigerant Condensers  SPC 150, Method of Testing the Performance of Cool Storage Systems  Standard 24, Methods of Testing for Rating Liquid Coolers  Standard 143, Method of Test for Rating Indirect Evaporative Coolers  Standard 182, Method of Testing Absorption Water-Chilling and Water-Heating Package | **ISO/TC 86, Refrigeration and air-conditioning**  SC 3, Factory-made refrigeration systems | EN 13771-2:2007, Compressors and condensing units for refrigeration – Performance testing and test methods – Part 2: Condensing units |
| SPC 23.2, Method of Test for Rating Positive Displacement Compressors that Operate at Supercritical Temperatures of the Refrigerants  Standard 23, Methods of Testing for Rating Positive Displacement Refrigerant Compressors and Condensing Units  Standard 23.1, Methods of Testing for Rating the Performance of Positive Displacement Refrigerant Compressors and Condensing Units that Operate at Subcritical Temperatures  SPC 179, Methods of Test for Life Testing Positive Displacement Refrigerant Compressors  TC 8.1, Positive Displacement Compressors | **ISO/TC 86, Refrigeration and air-conditioning**  SC 4, Refrigerant compressors  ISO 917: 1989, Testing of refrigerant compressors  ISO 9309:1989, Refrigerant compressors – Presentation of performance data | IEC 61C, Safety of refrigeration appliances for household and commercial use  IEC 60335-2-34, Household and similar electrical appliances - Safety - Part 2-34: Particular requirements for motor-compressors  EN 13771-1:2003, Compressors and Condensing Units for Refrigeration - Performance testing and test methods - Part 1: Refrigeration Compressors |
| **Air-conditioners and heat pumps** | | |
| SPC 16, Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners  SPC 30, Methods of Testing Liquid Chilling Packages  SPC 33, Methods of Testing Forced Circulation Air Cooling and Air Heating Coils  SPC 40, Methods of Testing for Rating Heat Operated Unitary Air-Conditioning and Heat-Pump Equipment  SPC 79, Methods of Testing for Rating Fan-Coil Conditioners  SPC 127, Method of Testing for Rating Computer and Data Processing Room Unitary Air Conditioners  SPC 128, Method of Rating Portable Air Conditioners  SPC 194, Method of Test for Direct-Expansion Ground Source Heat Pumps  Standard 37, Methods of Testing for Rating Electrically Driven Unitary Air-Conditioning and Heat Pump Equipment  Standard 84, Method of Testing Air-to-Air Heat/Energy Exchangers  Standard 116, Methods of Testing for Rating Seasonal Efficiency of Unitary Air-Conditioners and Heat Pumps  Standard 133, Method of Testing Direct Evaporative Air Coolers  Standard 193, Method of Testing for Determining the Air-Leakage Rate of HVAC Equipment  TC 2.6, Sound and vibration control  TC 5.5, Air-to-Air Energy Recovery  TC 5.7, Evaporative Cooling  TC 6.3, Central Forced Air Heating and Cooling Systems  TC 6.8, Geothermal Heat Pump and Energy Recovery Applications  TC 8.6, Cooling Towers and Evaporative Condensers  TC 8.7, Variable Refrigerant Flow (VRF)  TC 8.11, Unitary and Room Air Conditioners and Heat Pumps | **ISO/TC 86, Refrigeration and air-conditioning**  SC 6, Air-conditioners and heat pumps  Working Group 1, Air-source air- conditioners and heat pumps  ISO 5151:2010, Non-ducted air conditioners and heat pumps – Testing and rating for performance  ISO 13253:1995, Ducted air conditioners and heat pumps – Testing and rating for performance  ISO/DTR 16491, Guide to the estimation of uncertainty of measurement in air conditioner and heat pump cooling and heating capacity tests  ISO/DIS 16358-1, Air-cooled air conditioners and air-to-air heat pumps - Testing and calculating methods for seasonal performance factors -- Part 1: Cooling seasonal performance factor CSPF  ISO/DIS 16358-2, Air-cooled air conditioners and air-to-air heat pumps - Testing and calculating methods for seasonal performance factors -- Part 2: Heating seasonal performance factor HSPF  ISO/DIS 16358-3, Air-cooled air conditioners and air-to-air heat pumps - Testing and calculating methods for seasonal performance factors -- Part 3: Annual performance factor APF  Working Group 2, Equipment sound ratings  ISO 13261-1:1998, Sound power rating of air-conditioning and air-source heat pump equipment -- Part 1: Non-ducted outdoor equipment  ISO 13261-2:1998, Sound power rating of air-conditioning and air-source heat pump equipment -- Part 2: Non-ducted indoor equipment  ISO/NP 13263-3, Sound power rating of air-conditioning and air-source heat pump equipment -- Part 3: Ducted equipment  Working Group 3, Water- and brine-source heat pumps and air-conditioners  ISO 13256-1:1998, Water-source heat pumps -- Testing and rating for performance -- Part 1: Water-to-air and brine-to-air heat pumps  ISO 13256-2:1998, Water-source heat pumps -- Testing and rating for performance -- Part 2: Water-to-water and brine-to-water heat pumps  Working Group 4, Air-conditioning condensing units  Working Group 5, Multiple split-system air conditioners and air-to-air heat pumps  ISO 15042, Multiple split-system air conditioners and air-to-air heat pumps -- Testing and rating for performance  Working Group 7, Hydronic fan-coil units  ISO/DIS 17553, Room fan-coil units -- Testing and rating for performance  Working Group 8, Water cooling towers  ISO/WD 16345, Water-cooling towers -- Testing and rating of thermal performance  Working Group 9, Air distribution devices  Working Group 10, Energy recovery ventilators  ISO/NP 16494, Heat recovery ventilators and energy recovery ventilators -- Method of test for performance  Working Group 11, Water chilling packages using the vapor compression cycle  ISO/NP 19298, Water chilling packages using the vapor compression cycle | CEN/TC 113, Heat pumps and air conditioning units  IEC 61D, Appliances for air-conditioning for household and similar purposes  IEC 60335-2-40, Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers |
| **Commercial refrigerators, freezers and display equipment** | | |
| SPC 72, Method of Testing Open and Closed Commercial Refrigerators and Freezers  TC 10.7, Commercial Food and Beverage Cooling Display and Storage | SC 7, Commercial refrigerated display cabinets  ISO 23953-1:2005, Refrigerated display cabinets – Part 1: Vocabulary  ISO 23953-2:2005, Refrigerated display cabinets – Part 2: Classification, requirements and test conditions | CEN/TC 44, Household refrigerating appliances and commercial refrigeration equipment (currently cooperating with SC 7 under the Vienna Agreement) |
| **Heating and cooling systems** | | |
| SPC 155, Method of Testing for Rating Commercial Space Heating Boiler Systems  TC 6.10, Fuels and Combustion  TC 8.3, Absorption and Heat Operated Machines  TC 6.1,  TC 6.6 | **ISO/TC 205, Building environment design**  WG 9, Heating and cooling systems  ISO/DIS 13612-1 , Heating and cooling systems in buildings – Method for calculation of the system performance and system design for heat pump systems – Part 1: Design and dimensioning  ISO/DIS 13612-2, Heating and cooling systems in buildings – Method for calculation of the system performance and system design for heat pump systems – Part 2: Energy calculation  ISO/DIS 13675, Heating and cooling systems in buildings – Method for calculation of the system performance and system design – Combustion systems (boilers) | CEN/TC 130, Space heating appliances without integral heat sources  CEN/TC 228, Heating systems in buildings |
| **Radiant heating and cooling systems** | | |
| Standard 138, Method of Testing for Rating Ceiling Panels for Sensible Heating and Cooling  TC 6.5, Radiant Heating and Cooling | **ISO/TC 205, Building environment design**  WG 8, Radiant heating and cooling systems  ISO 11855, Building environment design — Design, dimensioning, installation and control of embedded radiant heating and cooling systems   * Part 1: Definition, symbols, and comfort criteria * Part 2: Determination of heating and cooling capacity * Part 3: Design and dimensioning * Part 4: Dimensioning and calculation of the dynamic heating and cooling capacity for TABS (Thermo Active Building Systems) * Part 5: Installation   Part 6: Control |  |
| **Refrigerants and refrigeration lubricants** | | |
| SSPC 34, Designation and Safety Classification of Refrigerants  SSPC 41, Standard Methods of Measurement  SPC 86, Methods of Testing the Floc Point of Refrigeration Grade Oils  SPC 99, Refrigeration Oil Description  **SPC 172,** Method of Test for Insoluble Materials in Synthetic Lubricants and HFC Refrigerant Systems  **SPC 175,** Metal Pressure Vessel Method to Test Materials Used in Refrigeration Systems  **SPC 177,** Method of Test for Measuring Fractionated Compositions of Refrigerant Blends  Standard 97, Sealed Glass Tube Method to Test the Chemical Stability of Materials for Use within Refrigerant Systems  Guideline 6, Refrigerant Information Recommended for Product Development and Standards  TC 3.1, Refrigerants and Secondary Coolants  TC 3.2, Refrigerant System Chemistry  TC 3.3, Refrigerant Contamination Control  TC 3.4, Lubrication  TC 10.10, Management of Lubricant in Circulation | SC 8, Refrigerants and refrigeration lubricants  Working Group 2, Refrigerant recovery, recycling and reclaim equipment  ISO 11650:1999, Performance of refrigerant recovery and/or recycling equipment  Working Group 3, Specification for contaminant levels of fluorocarbon refrigerants  ISO/AWI 12810, Fluorocarbon refrigerants – Specifications and test methods  Working Group 5, Refrigerants – Designation and safety classification  ISO 817:2005, Refrigerants – Designation system  ISO/FDIS 817, Refrigerants – Designation and classification system  Working Group 6, Specification for refrigeration lubricants  ISO 6743-3:2003, Lubricants, industrial oils and related products (class L) — Classification — Part 3: Family D (Compressors)  Working Group 7, Refrigerant properties  ISO 17584:2005, Refrigerant properties | CEN/TC 182, Refrigerating systems, safety and environmental requirements |
| **Fans** | | |
| Standard 51, Laboratory Methods of Testing Fans for Certified Aerodynamic Performance Rating  Standard 87.2, In-Situ Method of Testing Propeller Fans for Reliability  Standard 87.3, Method of Testing Propeller Fan Vibration – Diagnostic Test Methods  TC 2.6, Sound and Vibration Control  TC 5.1, Fans | **ISO/TC 117, Fans**  ISO 5801:2007, Industrial fans -- Performance testing using standardized airways  ISO 5802:2001, Industrial fans -- Performance testing in situ  ISO 12499:1999, Industrial fans -- Mechanical safety of fans -- Guarding  ISO 12759:2010, Fans -- Efficiency classification for fans  ISO 13347-1:2004, Industrial fans -- Determination of fan sound power levels under standardized laboratory conditions -- Part 1: General overview  ISO 13347-2:2004, -- Part 2: Reverberant room method  ISO 13347-3:2004, -- Part 3: Enveloping surface methods  ISO 13347-4:2004, -- Part 4: Sound intensity method  ISO 13348:2007, Industrial fans -- Tolerances, methods of conversion and technical data presentation  ISO 13349:2010, Fans -- Vocabulary and definitions of categories  ISO 13350:1999, Industrial fans -- Performance testing of jet fans  ISO 13351:2009, Fans -- Dimensions  ISO 14694:2003, Industrial fans -- Specifications for balance quality and vibration levels  ISO 14695:2003, Industrial fans -- Method of measurement of fan vibration  ISO/NP TR 16219, Fans -- System effect factors  ISO 27327-1:2009, Fans -- Air curtain units -- Part 1: Laboratory methods of testing for aerodynamic performance rating  ISO/NP 27327-2, Fans -- Air curtain units -- Part 2: Laboratory methods of testing for sound power | CEN/SS I24, Industrial Fans  IEC 61, Safety of household and similar electrical appliances  IEC 60335-2-80, Household and similar electrical appliances – Safety – Part 80: Particular requirements for fans |
| **Air cleaning and filtration equipment** | | |
| **SSPC 52.2, Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size**  **SPC 145, Test Method for Assessing the Performance of Gas Phase Air Cleaning Equipment**  **SPC 185.1,** Method of Testing UVC Lights for Use in Air Handling Units or Air Ducts to Inactivate Airborne Microorganisms  **SPC 199,** A Method of Test for Rating the Performance of Industrial Pulse Cleaned Dust Collectors  **Guideline 26,** Guideline for Field Testing of General Ventilation Filtration Devices and Systems for Removal Efficiency In-Situ by Particle Size and Resistance to Airflow  **TC 2.3, Gaseous Air Contaminants and Gas Contaminant Removal Equipment**  **TC 2.4, Particulate Air Contaminants and Particulate Contaminant Removal Equipment**  **TC 2.9, Ultraviolet Air and Surface Treatment** | **ISO/TC 142, Cleaning equipment for air and other gases**  Working Group 1, Terminology  ISO 3649:1980, Cleaning equipment for air or other gases – Vocabulary  ISO/FDIS 29464, Cleaning equipment for air and other gases – Terminology  Working Group 2, UV-C technology  ISO/AWI 15858, UV-C devices – Safety information  Working Group 3, General ventilation filters  ISO/TS 21220:2009, Particulate air filters for general ventilation -- Determination of filtration performance  ISO/CD 29462, Field testing of general ventilation filtration devices and systems for in situ removal efficiency by particle size and resistance to airflow  ISO/AWI 12249-1, Particulate air filters for general ventilation -- Part 1: Method of calculation for the life cycle cost for air cleaning devices  ISO/NP 12249-2, Particulate air filters for general ventilation -- Part 2: Method of calculation for the energy performance of air cleaning devices and for the classification of the energy performance  ISO/AWI 15957, Challenge contaminants for testing air cleaning equipment  Working Group 4, HEPA and ULPA filters  ISO/DIS 29463-1, High-efficiency filters and filter media for removing particles from air -- Part 1: Classification, performance testing and marking  ISO/DIS 29463-2, -- Part 2: Aerosol production, measuring equipment and particle-counting statistics  ISO/DIS 29463-3, -- Part 3: Test method for flat sheet filter media  ISO/DIS 29463-4, -- Part 4: Test method for determining the leakage of filter elements (scan method)  ISO/DIS 29463-5, -- Part 5: Test method for determining the efficiency of filter elements  Working Group 5, Dust collectors, droplet separators and purifiers  ISO 6584:1981, Cleaning equipment for air and other gases – Classification of dust separators  Working Group 6, Flat sheet media testing  ISO/AWI 14086-1, Flat sheet filter media -- Part 1: Fractional efficiency test for general ventilation applications  Working Group 7, Durability of cleanable dust control filter media  Working Group 8, Gas-phase air cleaning devices  ISO/CD 10121-1, Test method for assessing the performance of gas-phase air cleaning media and devices for general ventilation -- Part 1: Gas-phase air cleaning media  ISO/DIS 10121-2, -- Part 2: Gas phase air cleaning devices (GPACD)  Working Group 9, Particulate air filter intake systems for rotary machinery and stationary internal combustion engines  ISO/DIS 29461-1, Air intake filter systems for rotary machinery -- Test methods -- Part 1: Static filter elements  ISO/NP 29461-2, -- Part 2: Test methods and classification for cleanable (pulse jet) filter systems  Working Group 10, Joint between ISO/TC 142 and ISO/TC 85/SC 2: Aerosol filters for nuclear applications  ISO/AWI 16170, In situ test methods for very high efficiency filter systems in industrial facilities | CEN/TC 195, Air filters for general air cleaning  EN 779, Particulate air filters for general ventilation - Determination of the filtration performance  IEC 61, Safety of household and similar electrical appliances  IEC 60335-2-65, Household and similar electrical appliances – Safety – Part 65: Particular requirements for air-cleaning appliances |
| **Solar energy utilization** | | |
| SPC 95, Methods of Testing to Determine the Thermal Performance of Solar Domestic Water Heating Systems  SPC 118.2, Method of Testing for Rating Residential Water Heaters  Standard 93, Methods of Testing to Determine Thermal Performance of Solar Collectors  Standard 96, Methods of Testing to Determine the Thermal Performance of Unglazed Flat-Plate Liquid-Type Solar Collectors  TC 6.7, Solar Energy Utilization  TC 6.1, 6.3, 6.6? | **ISO/TC 180, Solar energy**  ISO 9488:1999, Solar energy – Vocabulary  ISO 9806-1:1994, Test methods for solar collectors – Part 1: Thermal performance of glazed liquid heating collectors including pressure drop  ISO 9806-2:1995, – Part 2: Qualification test procedures  ISO 9806-3:1995, – Part 3: Thermal performance of unglazed liquid heating collectors (sensible heat transfer only) including pressure drop  ISO 9808:1990, Solar water heaters – Elastomeric materials for absorbers, connecting pipes and fittings – Method of assessment  ISO/TR 10217:1989, Solar energy – Water heating systems – Guide to material selection with regard to internal corrosion  ISO/NP 16280, Solar energy –Evacuated solar collectors – Design, classification and tests  ISO/TC 180/SC 4, Solar energy – Systems – Thermal performance, reliability and durability  ISO 9459-1:1993, Solar heating – Domestic water heating systems – Part 1: Performance rating procedure using indoor test methods  ISO 9459-2:1995, – Part 2: Outdoor test methods for system performance characterization and yearly performance prediction of solar-only systems  ISO 9459-3:1997, – Part 3: Performance test for solar plus supplementary systems  ISO/FDIS 9459-4, – Part 4: System performance characterization by means of component test and computer simulation  ISO 9459-5:2007, – Part 5: System performance characterization by means of whole-system tests and computer simulation | CEN/TC 312, Thermal solar systems and components  EN 12975-2, Thermal solar systems and components - Solar collectors – Part 2: Test methods  IEC/TC 117, Solar thermal electric plants |
| **Energy Performance of Buildings** | | |
| SSPC 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings  SSPC 90.2, Energy-Efficient Design of Low-Rise Residential Buildings  SPC 100, Energy Efficiency in Existing Buildings  Standard 105, Standard Methods of Measuring and Expressing Building Energy Performance  SSPC 189.1, Standard for the Design of High-Performance Green Buildings  **SSPC 189.3,** Design, Construction and Operation of Sustainable High Performance Health Care Facilities  TC 4.4, Building Materials and Building Envelope Performance  TC 4.5, Fenestration  TC 4.7, Energy Calculations  TC 7.6, Building Energy Performance  Look at the 90.1 cognizant TC liaison list | **ISO/TC 205, Building environment design**  WG 2, Design of energy-efficient buildings  ISO 16818:2008, Building environment design – Energy efficiency – Terminology  ISO 23045:2009, Building environment design – Guidelines to assess the energy-efficiency of new buildings  ISO/DIS 13153, Framework of the design process for energy-saving single-family residential and small commercial buildings with the energy consumption ratio as the criterion  \*ISO/CD 12655, Presentation of real energy use of buildings  \*ISO/WD 16343, Energy performance of buildings – Methods for expressing energy performance and for energy certification of buildings  \*ISO/WD 16344, Energy performance of buildings – Common terms, definitions and symbols for the overall energy performance rating and certification  \*ISO/WD 16346, Energy performance of buildings – Assessment of overall energy performance  \*developed by the ISO/TC 163-ISO/TC 205 Joint Working Group | ISO/TC 163, Thermal performance and energy use in the built environment  CEN/TC 89, Thermal performance of buildings and building components  CEN/TC 371, Energy performance of buildings |
| **Building automation and control** | | |
| SSPC 135, BACnet – A Data Communication Protocol for Building Automation and Control Networks  SSPC 135.1, Method of Testing for Conformance to BACnet  SGPC 13, Specifying Direct Digital Control Systems  SPC 201, Facility Smart Grid Information Model  TC 1.4, Control Theory and Application  TC 7.5, Smart Building Systems | WG 3, Building control system design  ISO 16484-1:2010, Building automation and control systems – Part 1: Project specification and implementation  ISO 16484-2:2004, Building automation and control systems – Part 2: Hardware  ISO 16484-3:2005, Building automation and control systems – Part 3: Functions  ISO/NP 16484-4, Building automation and control systems – Part 4: Applications  ISO 16484-5:2010, Building automation and control systems – Part 5: Data communication protocol  ISO 16484-6:2009, Building automation and control systems – Part 6: Data communication conformance testing  ISO/FDIS 14908, Interconnection of information technology equipment – Control network protocol (4 parts) | CEN/TC 247, Building automation, control and building management |
| **Indoor environment – Ventilation and air quality** | | |
| SSPC 62.1, Ventilation for Acceptable Indoor Air Quality  SSPC 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings  SPC 129, Measuring Air-Change Effectiveness  SSPC 170, Ventilation of Health Care Facilities  Guideline 24, Ventilation and Indoor Air Quality in Low-Rise Residential Buildings  TC 4.3, Ventilation Requirements and Infiltration  TC 4.10, Indoor Environmental Modeling  TRG 4, Indoor Air Quality Procedure Development  TC 5.8, Industrial Ventilation Systems | **ISO/TC 205, Building environment design**  WG 4, Indoor air quality  ISO 16814:2008, Building environment design – Indoor air quality – Methods of expressing the quality of indoor air for human occupancy  ISO/NP 16295, Performance requirement for ventilation and room-conditioning systems for non-residential buildings  ISO/NP 16783, Ventilation design for high-rise residential buildings | ISO/TC 146/SC 6, Air quality - Indoor air  CEN/TC 156, Ventilation for buildings |
| **Indoor environment - Thermal** | | |
| SSPC 55, Thermal Environmental Conditions for Human Occupancy  TC 2.1, Physiology and Human Environment  TC 4.10, Indoor Environmental Modeling  TC 5.3, Room Air Distribution | **ISO/TC 205, Building environment design**  WG 5, Indoor thermal environment  ISO/WD 16815, Building environment design – Design and evaluation of indoor thermal environment | ISO/TC 159, Ergonomics  CEN/TC 156, Ventilation for buildings |
| **Indoor environment – Acoustical** | | |
| TC 2.6, Sound and Vibration Control  TC 4.10, Indoor Environmental Modeling  SSPC 189.1 | **ISO/TC 205, Building environment design**  WG 6, Indoor acoustical environment  ISO/NP 16816, Building environment design – Indoor acoustic environment | ISO/TC 43/SC 2, Acoustics – Building acoustics  CEN/TC 156, Ventilation for buildings |
| **Indoor environment – Lighting and visual** | | |
| TC 4.10, Indoor Environmental Modeling | **ISO/TC 205, Building environment design**  WG 7, Indoor visual environment  ISO 16817:2012, Building environment design – Indoor environment – Design process for visual environment |  |
| SSPC 180, Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems  **GPC 10P,** Interactions Affecting the Achievement of an Acceptable Indoor Environment  TC 7.1, Integrated Building Design  TC 7.3, Operation and Maintenance Management  ISO 16813:2006, Building environment design – Indoor environment – General principles | **ISO/TC 205, Building environment design**  WG 1, General Principles |  |

**ATTACHMENT D**

**ANSI INTERNATIONAL COMMITTEE UPDATES**

To: ILS/ISAS

From: Ryan Shanley

Re: Updates from the ANSI ISO Council (AIC), ANSI International Forum (AIF) and the ANSI International Policy Advisory Group (IPAG).

1. Stephanie Reiniche currently is a voting member of AIC and a non-voting member of the AIF and ANSI IPAG. Ryan Shanley is a non-voting member of the AIF.
2. **Note all TAG Chairs and anyone serving as Chair of an ISO Technical Committee or Subcommittee are also members of AIF and are welcome to attend the meetings.** Many of the items shared and discussed at the AIC are shared for feedback from the AIF. Also, ANSI’s ISO Technical Team has been providing regular training opportunities for the different roles within ISO that all are welcome to attend.
3. As of June 10th, 2021, all ISO meetings (technical committees, subcommittees, and working groups) are to be held virtually through September 30th, 2021. However, the ISO President’s Committee has agreed to allow technical committees to request an exception to hold hybrid meetings (with options for on-site or virtual attendance) from August 1st, 2021 onward. These requests are to be reviewed and approved by the President’s Committee on a case-by-case basis.
4. The on-hold option for projects within ISO is likely going to end on July 31st, 2021, as we move out of the pandemic. Not many took advantage of this option.
5. ISO and IEC have a joint task force that is going to develop guidance documents on virtual and hybrid meetings. Members of AIF will be solicited for input. It’s not meant to be a standard but rather best practices.
6. A request for decimal points to replace commas in ISO documents was balloted to the TMB. This will be discussed at the TMB meeting later in June. One late ballot will be counted at that meeting and will bring the request up to 2/3rds of the TMB approving it. There was a comment from DIN asking to defer the vote until June in order to discuss a technical solution that would have the decimals tagged in XML for easier translation and editing. The TMB and SMB (IEC) need to agree on this for inclusion in the directives.
7. ISO will be counting all CIB ballots, not just NP, DTR, DIS, etc. to track involvement and potentially downgrade P-members.
8. A proposal regarding actions of the European Commission and HAS consultants and the impact on ISO standards development was discussed. ANSI expressed some concerns, especially as it related to referencing non-European standards, and the effect that could have on the usability of ISO standards. A meeting occurred in Brussels and a written report is to be shared with the TMB. ISO/CS will also present at the TMB in June with a verbal summary. The information will be shared with the AIF once it is received. The meeting in Brussels was considered positive in terms of airing concerns, and a small task force will be formed to dive deeper into the issues.
9. **ISO has switched platforms and is not using LiveLink.** As previously reported, AFNOR and DIN no longer have separate sites. All TCs are within this new platform (ISO Documents). There has been testing of some online standards development that includes the following three areas: online collaborative authoring, commenting, and editing. ISO/TC 292 conducted a test and created the first online collaborative authoring document, but they were unable to get NSB comments or a full output document to ISO for publication. ISO will proceed with additional testing.

1. R. Burkhead, E. Khalil, and K. Kwong were not present for this motion and were listed as abstaining. [↑](#footnote-ref-1)
2. R. Burkhead, E. Khalil, and K. Kwong were not present for this motion and were listed as abstaining. [↑](#footnote-ref-2)