



**TECHNOLOGY COUNCIL
Kansas City, MO
Summer Conference
Wednesday, June 26, 2019**

***NOTE:** These are not the official minutes until approved by Technology Council.
All reports listed in these minutes can be found on Basecamp in folder
Meetings/2019_06_26 Kansas City Meeting*

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MOTIONS
Technology Council Meeting
Kansas City, MO Summer Conference
June 26, 2019

CM1.	Technology Council approved the following 44 standards committee documents be approved for publication as a consent agenda.
2	Technology Council recommended that ASHRAE participate in the Great Predictor Shoot-out Competition and that \$25,000 from the SY 19-20 research budget be used to cover the prize awards for the top three winners of the competition.
3	Technology Council to recommend to the Board that Rules of the Board Section 2.303.1, Membership, and Section 2.303.6, Research Project Approval Limit, be revised and approved as shown.
4	Technology Council approved an increase to the standards appeals filing fee from \$600 to \$1200 beginning September 1, 2019.
5	Technology Council approved changes to their MOP as shown in OPS Report Attachment A (in strike-through and underline).
6	Technology Council approved changes to the Residential Building Committee MOP as shown below (in strike-through and underline).
7	Technology Council approved a maximum of \$35K (100% of the \$135k estimated budget) for the FY 2020-21 budget for the development of a Standard 62.1-2019 User's Manual.
8	Technology Council recommends that the BOD ExCom initiate a revision to the Refrigerants and their Responsible Use position document (PD).
9	Technology Council recommends that the BOD approve the Resiliency in the Built Environment PD.
10	Technology Council approved the retirement of the Ammonia as a Refrigerant position document (PD) when it expires in February 2020.
11	Technology Council appointed Walter Vernon to the Infectious Aerosols position document (PD) committee replacing current member Yuguo Li.
12	Technology Council reaffirmed the Environmental Tobacco Smoke Position Document (PD) for 12 months.
13	Technology Council reaffirmed the Combustion of Solid Fuels and Indoor Air Quality in Primarily Developing Countries Position Document (PD).
14	Technology Council appointed Andrew Persily as chair of the Indoor Carbon Dioxide PD committee.
15	Technology Council approved research project 1837-TRP, <i>The Effects of Ventilation in Sleeping Environments</i> , be awarded to Technical University of Denmark for a period of 36 months at a total cost to ASHRAE of \$230,541.

ACTION ITEMS
Technology Council Meeting
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AI#	Responsibility	Status	Summary
1	Knight/ Schwedler	Complete	Talk to Daryl Boyce about adding the outgoing EHC Chair, Elliott Horner, to the EHC roster as a Consultant for SY19-20, so EHC is in compliance with ROB 2.406.002.1.C.
2	DRSC	Open	Look at the potential gaps in <i>Combustion of Solid Fuels and Indoor Air Quality in Primarily Developing Countries</i> , related to Larry Markel's concerns about lack of outreach to interested parties in developing countries.
3	Reiniche	Complete	Send out the list of lean assessment items approved by the Board for SY 19-20 to the Council.
4	DRSC	Open	Look at rules related to the Public Policy Issue Briefs to help the Washington staff respond quickly to requests for info without having to wait for a response from the Council.

MINUTES
TECHNOLOGY COUNCIL MEETING
Kansas City, MO Summer Conference
June 26, 2019

Attendance:

Voting Members Present

Mick Schwedler, Chair
Dennis Knight, Vice Chair
Van Baxter
Mike Bilderbeck
Kelley Cramm
Charlie Culp
Douglas Fick
Ken Fulk
Art Giesler
Byron Jones
Tom Lawrence
Larry Markel
Sarah Maston

Non-Voting Members Present

Don Brundage
Wade Conlan
Paul Francisco
Elliott Horner
Tom Justice
Jay Kohler
Rajan Rajendran
John Shonder
Theresa Weston
David Yashar

Absent

Steve Emmerich, VM
Martin Dieryckx
Wayne Stoppelmoor

Guests

Billy Austin
Todd Einck
Priyank Garg
Krishnan Gowri
Anuj Gupta
Munis Hameed
Rick Hermans
Jaap Hogeling
Trent Hunt
Jim Leverette
Tim McGinn
Bill McQuade
Dustin Meredith
Kevin Muldoon
Apichit L. Pongpana
Bert Phillips
Dan Russell

ASHRAE Staff

Steve Ferguson, Sr. MOS
Steve Hammerling, AMTS
Jeff Littleton, Exec VP
Jeremy Pollack, MOFGA
Lilas Pratt, MOSP
Stephane Reiniche, DOT
Caroline Sevier
Mike Vaughn, Sr. MORTS
Alice Yates, DOGA

1. CALL TO ORDER/OPENING COMMENTS

Chair, Mick Schwedler, called the meeting to order at 9:00 a.m. Director of Technology, Stephanie Reiniche, was asked to record any action items during the meeting. Members and guests introduced themselves. All attendees were reminded of the commitment to the ASHRAE Code of Ethics and the ASHRAE Core Values.

2. REVIEW OF AGENDA

Tech Council Chair asked for any changes to the agenda. There being none, the agenda was accepted as presented.

Secretary's Note: Quorum was met with 11 voting members, plus Chair. Dennis Knight was absent and providing a presentation at another meeting when votes were taken.

3. ACTION ITEM UPDATES

Chair reviewed open Action Items. Updates were reported and the current Action Items status report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings/2019_06_26 Kansas City Meeting/03 ACTION ITEMS as of 6 11 2019.doc](#)

4. STANDING COMMITTEE REPORTS

A. Standards

Don Brundage presented the following motions for Tech Council consideration. A copy of the full committee report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; Meetings/2019_06_26_Kansas_City_Meeting/04A-StdC_Report_to_TC_KC_Annual_Mtg.doc](#).

- CM1** It was moved by Larry Markel and seconded by Tom Lawrence that the following 44 standards committee documents be approved for publication as a consent agenda.
- a. BSR/ASHRAE Addendum *x* (*adds the zeotropic refrigerant blend R-467A*) to ANSI/ASHRAE Standard 34-2016, *Designation and Safety Classification of Refrigerants* publications be approved as a consent agenda.
 - b. BSR/ASHRAE Addendum *y* (*adds the zeotropic refrigerant blend R-468A*) to ANSI/ASHRAE Standard 34-2016, *Designation and Safety Classification of Refrigerants*
 - c. BSR/ASHRAE Addendum *ah* (*zone distribution effectiveness*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*
 - d. BSR/ASHRAE Addendum *ai* (*ventilation system*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*
 - e. BSR/ASHRAE Addendum *am* (*Airstreams or Sources*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*
 - f. BSR/ASHRAE Addendum *ap* (*updates references*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*
 - g. BSR/ASHRAE Addendum *ar* (*Acceptable Mass Balance Equations*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*
 - h. BSR/ASHRAE Addendum *c* (*variable ventilation control strategies*) to ANSI/ASHRAE Standard 62.2-2016, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*
 - i. BSR/ASHRAE Addendum *t* (*balanced system*) to ANSI/ASHRAE Standard 62.2-2016, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*
 - j. BSR/ASHRAE/IES Addendum *y* (*clarifies sizing runs*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - k. BSR/ASHRAE/IES Addendum *al* (*HVAC zone designations*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - l. BSR/ASHRAE/IES Addendum *ba* (*water heating requirements*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - m. BSR/ASHRAE/IES Addendum *bd* (*revises chiller tables*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - n. BSR/ASHRAE/IES Addendum *bh* (*air curtain alternative*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - o. BSR/ASHRAE/IES Addendum *bi* (*pool room dehumidifiers*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - p. BSR/ASHRAE/IES Addendum *bj* (*updates the Standard 140 reference*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - q. BSR/ASHRAE/IES Addendum *bk* (*combined heat and power systems*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
 - r. BSR/ASHRAE/IES Addendum *bl* (*revises table 6.8.1.1*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*

- s. BSR/ASHRAE/IES Addendum *bq* (revises table 6.8.1.7) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- t. BSR/ASHRAE/IES Addendum *bt* (building performance factors) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- u. BSR/ASHRAE/IES Addendum *bx* (heated slabs) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- v. BSR/ASHRAE/IES Addendum *bz* (revises appendix C) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- w. BSR/ASHRAE/IES Addendum *ca* (adds U-factors) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- x. BSR/ASHRAE/IES Addendum *cc* (clarifies the limitations of calculation procedures) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- y. BSR/ASHRAE/IES Addendum *ce* (motor size limits) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- z. BSR/ASHRAE/IES Addendum *cg* (lighting power densities) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- aa. BSR/ASHRAE/IES Addendum *ch* (pool room dehumidifiers) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- bb. BSR/ASHRAE/IES Addendum *ci* (building performance factors) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- cc. BSR/ASHRAE/IES Addendum *cj* (lighting updates) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- dd. BSR/ASHRAE/IES Addendum *cn* (walk in cooler-freezer efficiency) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- ee. BSR/ASHRAE/IES Addendum *co* (updates the normative references) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*
- ff. BSR/ASHRAE Addendum *d* (90.1 Consistency) to ANSI/ASHRAE Standard 90.4-2016, *Energy Standard for Data Centers*
- gg. BSR/ASHRAE Addendum *f* (ELC UPS Segment Modification) to ANSI/ASHRAE Standard 90.4-2016, *Energy Standard for Data Centers*
- hh. BSR/ASHRAE Addendum *g* (MLC 300 kW) to ANSI/ASHRAE Standard 90.4-2016, *Energy Standard for Data Centers*
- ii. BSR/ASHRAE Addendum *d* (filter types) to ANSI/ASHRAE Standard 161-2018, *Air Quality within Commercial Aircraft*
- jj. BSR/ASHRAE Addendum *e* (HEPA filters) to ANSI/ASHRAE Standard 161-2018, *Air Quality within Commercial Aircraft*
- kk. BSR/ASHRAE/USGBC/IES Addendum *c* (Paints and Coatings) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- ll. BSR/ASHRAE/USGBC/IES Addendum *d* (Soil Gas) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- mm. BSR/ASHRAE/USGBC/IES Addendum *e* (CO₂ Performance Factor Correction) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- nn. BSR/ASHRAE/USGBC/IES Addendum *f* (Construction Documents Definition) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*

- oo. BSR/ASHRAE/USGBC/IES Addendum *g* (*Registered Design Professional Definition*) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- pp. BSR/ASHRAE/USGBC/IES Addendum *h* (*Special Water Features*) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- qq. BSR/ASHRAE/USGBC/IES Addendum *l* (*Fault Detection and Diagnostics*) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*
- rr. BSR/ASHRAE/USGBC/IES Addendum *v* (*New Furniture*) to ANSI/ASHRAE/USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*

TECHC VOTE: 11-0-0, CNV

B. Environmental Health Committee (EHC)

Chair Elliott Horner reported and highlighted the EHC activities shown below. No motions were brought forward. The full report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/04C-EHC Rprt to TechC.19.A.docx](#).

1. EHC continues with their new meeting format to ensure efficiency of meeting time and to allow for time allocated to a Strategic Discussion Topic. The topic for Atlanta was “*Developing a Strategic Plan for EHC*”.
2. Planning is underway for ASHRAE’s IAQ 2020 conference. Bill Bahnfleth and Max Sherman are chairing the event tentatively titled “*IEQ Performance Approaches*”. It will take place in Greece in September of 2020 and be organized with AIVC and IEQ-GA. IEQ-GA will take the lead on organizing the IAQ 2023 conference.

AI#1 – Dennis Knight/Mick Schwedler to talk to Daryl Boyce about adding the outgoing EHC Chair, Elliott Horner, to the EHC roster as a Consultant for SY19-20, so EHC is in compliance with ROB 2.406.002.1.C.

Secretary’s Note: Vice Chair, Dennis Knight, joined the meeting at 9:20 am – vote count is now 12 plus chair.

C. Refrigeration (REF)

REF Chair Martin Dieryckx gave an update and highlighted some of the committee’s activities. No motions were brought forward. The full report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/04D-REF Rprt to TechC.19.A.docx](#)

1. REF proposed changes to their MOP to 1) change the title of the committee to better capture and communicate the scope and work of the committee, and 2) make changes to ensure REF can effectively liaise with refrigeration societies outside of ASHRAE. Changes were not approved by OPS so REF will continue to develop.
2. REF passed a motion that “The REF hereby recommends that ASHRAE officially recognize June 26 as World Refrigeration Day to promote and serve as a means of raising awareness and understanding the important contribution that refrigeration, air conditioning and heat pumps make globally across many aspects of modern life and society”. This was presented to the BOD at the open mic session on Sunday.

D. Residential (RBC)

Chair Theresa Weston highlighted some of the committee’s activities. No motions were presented. The full report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Conference/04E RBC Report to TechC 2019-06-26.docx](#).

1. The 1821-RP Multifamily Design Guide is in the final stages of Publications and is expected to be available later this summer. *Secretary's Note: This document is now expected to be published in December 2019 or January 2020.*
2. The Stakeholders subcommittee is reviewing their approach to stakeholder outreach and engagement and is working to find a better way to execute this initiative. They are looking at a more targeted approach that would connect stakeholder input to ASHRAE activities.
3. The Conferences subcommittee continues to augment the list of residential themed conferences both within the U.S. and internationally and to identify potential roles for ASHRAE at these conferences such as presentations and/or reserving and staffing an ASHRAE booth at select conferences.

E. Research Administration (RAC)

Chair Jon Shonder reported, as highlighted below, on the activities of RAC.

M2 It was moved by Doug Fick and seconded that:

ASHRAE should participate in the **Great Predictor Shoot-out Competition** and that \$25,000 from the SY 19-20 research budget be used to cover the prize awards for the top three winners of the competition.

BACKGROUND: TechC had previously endorsed this competition at an earlier Society meeting and there is strong interest in participating in this competition at the TC level. Results from the competition will be presented at a future Society meeting program session. There would be no budget impact.

TEHC VOTE: 11-0-0, CNV

RAC awarded the SY 19-20 Innovative Research Grant to W. Travis Horton from the University of Purdue for their project titled Surface De-Icing in Heat Pump Fins by Local Morphing. The three-year grant is valued at \$100,000 with the potential to earn an additional \$25,000 in year #3 if matched with industry contributions to their project.

F. Technical Activities (TAC)

Chair Tom Justice discussed and highlighted items from TAC's report which can be found in full on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/04B-TAC A19 Draft 4.docx](#). There were no motions presented.

1. TAC approved formation of a new MTG titled Refrigeration and Air Conditioning (RAC) Plant Assessment Guide and another MTG titled Indoor Agricultural Plant Production.
2. TRG.4.IAQP.
TAC reviewed balance issues within TRG4.IAQP. TAC concluded the TRG is in compliance with the TC MOP which notes that chair should work towards balance. Balance categories and other specifics or definitions are not provided. TAC felt issue would be most appropriately handled as a Standards Committee issue and defer to their procedures for tasks as part of their Standards development procedures. TAC will review TC MOP to determine balance requirements are needed for standards related TRG tasks.

5. SUBCOMMITTEE REPORTS

A. Operations (OPS)

Chair Art Giesler reported on the OPS committee activities. Full report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/ 05C OPS Report to TechC 6-25 2019 v1.docx](#)

M3 It was moved by Art Geisler that:

Tech Council recommend to the Board that Rules of the Board Section 2.303.1, *Membership*, and Section 2.303.6, *Research Project Approval Limit*, be revised and approved as shown below:

2.303.1 Membership

The members of this council are as follows:

Chair: A Vice President of the Society

Vice Chair: A Vice President of the Society

Voting Members: Chair, Vice Chair, 3 Directors-at-Large, plus the following positions elected by the Board of Directors:

One past voting member each from Research Administration, Standards, Technical Activities and the Board of Directors (past DRC)

Three at-large members

Non-Voting Members: Chair of each committee reporting to this council plus the vice chair of Research Administration, Standards and Technical Activities Committees.

At-large members are chosen for their past broad experience and expertise relevant to this council. Recommendations for at-large members should consider maintaining residential, refrigeration and environmental health experience on the council.

2.303.6 Research Project Approval Limit

This council may approve research projects, within the Board-approved research budget, up to a total project cost not to exceed ~~\$200,000~~ \$250,000. Within this limit, this council may delegate project approval authority to the Research Administration Committee.

BACKGROUND: These proposed changes add residential experience to the at-large members to reflect the standing committees that report to Tech Council. This also allows the Council to approve research projects up to \$250,000. Less than one third of all projects over a three-year period exceed \$200,000 in total cost. This will allow RAC and Tech Council to address the speed to market complaints for research projects.

TECHC VOTE: 11-0-0, CNV

M4 It was moved by Art Geisler that:

Technology Council approve an increase to the standards appeals filing fee from \$600 to \$1200 beginning September 1, 2019.

BACKGROUND: Technology Council is responsible for setting the standards appeals filing fee. ASHRAE's appeals filing fee is on the lower end of other standards development organizations. Fees range from \$500 to \$2500 and ANSI's fee is set at \$1500. Appeals Panel members are paid full travel reimbursement. This will not cover the entire cost for each appeal. PASA does allow for waivers due to financial hardship. Waivers have been granted in the past.

TECHC VOTE: 11-0-0, CNV

M5 It was moved by Art Geisler that:

The Technology Council MOP be approved as shown in OPS Report Attachment A (in strike-through and underline).

BACKGROUND: These changes are proposed as part of OPS regular review of the Technology Council governing documents. Several changes also reflect proposed changes to the Rules of the Board. If approved this will need to be sent to Society Rules Committee for review and approval.

TECHC VOTE: 11-0-0, CNV

M6 It was moved by Art Geisler that:

The changes to the Residential Building Committee MOP be approved as shown below (in strike-through and underline).

SECTION E – SUBCOMMITTEES

Part 1. Organization

- E1.1 ~~Standing~~ Subcommittees of the RBC are organized by the Chair as necessary to satisfy the needs of the committee.
- E1.2 Ad hoc subcommittees may be appointed by the Chair of the committee
- E1.3 The Chair shall form ~~additional~~ subcommittees as needed to conduct the business of the RBC in a practical and efficient manner. As conditions change, the Chair may dissolve these subcommittees.
- E1.4 The Chair shall appoint the members and chair of each subcommittee. The chair of each subcommittee must be a member of RBC. At least three subcommittee members should be members of the RBC, but the Chair may appoint Additional Subcommittee members who are not members of the RBC when there is a need for members who have expertise and experience in certain areas that are of immediate importance and not available from the RBC members.
- E1.5 Subcommittee members are appointed for the Society year. If a member's term of service on the committee continues into the next Society year, they may be re-appointed to the same or different subcommittee by the incoming Chair.
- E1.6 The subcommittees shall meet at least two (2) times per year at the Annual and Winter Society meetings.
- E1.7 The subcommittee Chair shall report subcommittee activities at the appropriate point in the agenda of the RBC meeting

Part 2. Responsibilities

~~E2.1 Program Subcommittee~~

- ~~2.1.1 Develop, manage and coordinate a long-term RBC program plan for Society Meetings and ASHRAE-sponsored conferences in cooperation with CEC. Identify potential topics and program chairs for RBC sponsored programs.~~
- ~~2.1.2 Sponsor or co-sponsor workshops, forums, seminars, symposia, and other technical presentations to bring residential building content to ASHRAE members and building professionals.~~
- ~~2.1.3 Liaise with other Society Committees, TCs, and other residential building professionals to identify related speakers/presenters for their programs when requested.~~

~~E2.2 Conferences Subcommittee~~

- ~~2.2.1 Identify and recommend to Technology Council conferences and workshops that the Society should sponsor or support.~~
- ~~2.2.2 Oversee the Society's role in the conferences and workshops as identified above in cooperation with CEC.~~

~~E2.3 Stakeholders Subcommittee~~

- ~~2.3.1 Identify and engage external stakeholders relevant to residential buildings.~~
- ~~2.3.2 Coordinate with Program Subcommittee and other Society entities to create and maintain two-way communications with stakeholders.~~
- ~~2.3.3 Inform stakeholders of opportunities to support RBC and Society strategic objectives.~~

~~E2.4 Publications Subcommittee~~

- ~~2.4.1 Identify opportunities to create or improve residential standards and technical information in the broader residential building community and coordinate activities with TAC and Standards Committee. Report opportunities and Society engagement efficacy to the RBC.~~

~~2.4.2 Coordinate and generate technical content in ASHRAE publications relevant to residential buildings.~~

~~2.4.3 Coordinate activities in residential guides and residential portions of broader guides with relevant committees responsible for those guides.~~

~~E2.5 Technical Subcommittee~~

~~2.5.1 Provide policy-level perspective to the RBC and Society to support technically sound actions affecting residential objectives.~~

2. ~~2.5.2 Coordinate with technical parts of ASHRAE (e.g., TCGs) and the Technology Council (e.g., Research Activities Committee (RAC), Standards Committee (StdC), Technical Activities Committee (TAC), Environmental Health (EHC), and Refrigeration Committee (Ref)) to facilitate residential activities.~~

Background: The RBC would like to remove the specific subcommittee assignment and responsibility information from their MOP and put it into their reference manual. They believe that this is a more appropriate place for that information.

TECHC VOTE: 11-0-0, CNV

B. Special Projects

Ken Fulk reported that Special Projects did not have quorum during its meeting. See report at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/05B_SpcProj_Report_to_TechC_2019-06-26_AM.docx](#)

M7

It was moved by Ken Fulk and seconded by Van Baxter that:

Tech Council commit a maximum of \$35K (100% of the \$135k estimated budget) for the FY 2020-21 budget for the development of a Standard 62.1-2019 User's Manual.

Background: Standard 62.1-2019 will be published later this year and the User's Manual needs to be updated to reflect the changes in the standard. In reviewing the financial impact as shown in Special Project Attachment A, those in attendance at the SP meeting determined that it would be appropriate to approve the request. Outside funding is not expected for this project.

Fiscal Impact: \$35,000

TECHC VOTE: 11-0-0, CNV

Publication Updates:

- **SP 140, The Advanced Energy Design Guide for Small to Medium Office Buildings – Achieving Zero Energy** was published on June 18, 2019 and is now available for free download at www.ashrae.org/freeaedg.
- **SP 141, The Multifamily Design Guide (1821-RP)** is in the final publication process and is expected to be published in 2019.

User's Manuals Updates:

- **SP 300, Standard 90.1-2019 User's Manual:** Three (3) proposals were received during the RFP process. NORESKO was selected as the contractor by the PMS and has been approved by all required bodies. Work is expected to begin on the project by August 1, 2019.
- **SP 303, Standard 189.1-2017/IgCC-2018 User's Manual:** The work statement is complete, and the RFP is ready to send out for bid immediately following the ASHRAE conference in Kansas City. The goal is to start work in September 2019.
- **SP 302, Standard 62.2-2019 User's Manual:** This project was previously approved by Technology Council and has now been deferred to FY 2020-21, so the contractor selection process will be timed to allow work to begin in July 2020.

C. Document Review (DRSC)

Dennis Knight reported on DRSC activities. See report at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting/05A-DRSC Rprt to TechC.19.A.docx](#).

M8 It was moved by Dennis Knight that:

Technology Council recommends that the BOD ExCom initiate a revision to the *Refrigerants and their Responsible Use* position document (PD).

BACKGROUND: Significant upgrades to the *Refrigerants and their Responsible Use* PD were done in the last revision (June 2018) and it discusses all main classes of refrigerants, including ammonia. Therefore, it makes sense to have one comprehensive ASHRAE Refrigerants PD so key elements from the *Ammonia as a Refrigerant* PD related to ASHRAE positions can be incorporated into a comprehensive PD. The *Refrigerants and their Responsible Use* PD expires in June 2021 and the *Ammonia as a Refrigerants* PD can stay in place until it retires in February 2020. REF will recommend a chair and position document committee members in the future. The title, purpose and scope of the Refrigerants and their Responsible Use PD does not need to change and is shown in **Attachment 05A-A**,

TECHC VOTE: 11-0-0, CNV

M9 It was moved by Dennis Knight that:

Technology Council recommend to the BOD that they approve the *Resiliency in the Built Environment* PD.

BACKGROUND: The PD is shown in **Attachment 05A-B**. The attachment shows the draft distributed to Tech Council on May 28th and track changes shows changes made by the PD committee and made available to Tech Council on June 23rd. The approved title, purpose and scope (TPS) for this PD is shown in **Attachment 05A-C**. This is a new ASHRAE position document and has not been published before. Also requires CISBSE approval.

TECHC VOTE: 11-0-0, CNV

M10 It was moved by Dennis Knight that:

Technology Council to retire the *Ammonia as a Refrigerant* position document (PD) when it expires in February 2020.

BACKGROUND: Key elements from the *Ammonia as a Refrigerant* PD related to ASHRAE positions will be incorporated into a revised comprehensive *Refrigerants and their Responsible Use* PD.

TECHC VOTE: 11-0-0, CNV

M11 It was moved by Dennis Knight that:

Technology Council appoint Walter Vernon to the *Infectious Aerosols* position document (PD) committee replacing current member Yuguo Li.

BACKGROUND: Walter Vernon is an electrical engineer and CEO of Mazzetti & Associates, a large engineering consulting firm specializing in health care projects around the world. He is very active in ASHRAE Society and experienced in working on ASHRAE committees (current vice-chair of SSPC 189.3). Mr. Vernon would replace Yuguo Li who has been unable to participate and resigned from the committee. It was reported that adding Mr. Vernon would not unbalance the committee as academia, infection prevention, public health, owners and designers are well represented.

TECHC VOTE: 11-0-0, CNV

M12 It was moved by Dennis Knight that:

Technology Council reaffirm the *Environmental Tobacco Smoke* Position Document (PD) for 12 months.

BACKGROUND: The PD is currently scheduled to expire on June 29, 2019. A revision to the PD is already authorized and is currently underway but will not be complete before the PD expires. The PD chair estimates the revision will be completed within 12 months.

TECHC VOTE: 11-0-0, CNV

M13 It was moved by Dennis Knight that:

Technology Council reaffirm the *Combustion of Solid Fuels and Indoor Air Quality in Primarily Developing Countries* Position Document (PD).

BACKGROUND: The PD is currently scheduled to expire on October 3, 2019. The chair of the PD committee that developed the current PD recommended a reaffirmation, not a full revision or retirement. The reaffirmed PD would expire in 36 months.

TECHC VOTE: 11-0-0, CNV

AI#2 - DRSC to look at the potential gaps in Combustion of Solid Fuels and Indoor Air Quality in Primarily Developing Countries, related to Larry Markel's concerns about lack of outreach to interested parties in developing countries.

M14 It was moved by Dennis Knight that:

Technology Council appoint Andrew Persily as chair of the *Indoor Carbon Dioxide* PD committee.

BACKGROUND: This new PD was authorized at the Winter Meeting. Persily agreed to serve if appointed. The plan is to recommend a full PD committee roster in the Fall and to have a draft of the PD for the Winter Meeting in Orlando.

TECHC VOTE: 11-0-0, CNV

6. AD HOC UPDATES

A. Disaster Response

Mr. Markel gave a verbal report on this ad hoc and was to submit a written report after Kansas City.

7. SPECIAL COMMITTEE/LIAISON REPORTS

A. GAC Report

Mr. Bilderbeck provided a verbal update and requested the remaining updates be presented by the DC office staff. (see below)

B. TC Reorganization

Sara Matson provided a verbal update. The reorganization was also reported on during the TAC report. (above)

C. Finance

Mick Schwedler reported on the lean assessments approved by the Board.

AI#3 - Stephanie Reiniche to send out the lean assessments that were provided on behalf of Tech Council to the Board.

D. Planning Committee

Dennis Knight reported on the updated Strategic Plan. The overview of the plan and presentation is posted on the ASHRAE website. The documents will be posted on Tech Council's basecamp site as soon as they are available. A reminder to incoming Chairs to review the new Strategic Plan when creating their MBOs for the next Society year.

8. DOT REPORT

Stephanie Reiniche gave a brief update on Technology staff activities and her full report can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings; 2019_06_26 Kansas City Meeting.](#)

9. ASHRAE DC OFFICE UPDATE

Alice Yates, Caroline Sevier and Jeremy Pollack reported on the activities of the ASHRAE DC office. Presentation can be found on Basecamp at [ASHRAE Technology; Docs & Files; Meetings;2019_06_26 Kansas City Meeting](#)

AI#4 - DRSC to look at rules related to the Public Policy Issue Briefs to help the Washington staff respond quickly to requests for info without having to wait for a response from the Council.

10. EXECUTIVE SESSION

The following motion was approved as part of the executive session.

M15 Research project **1837-TRP**, *The Effects of Ventilation in Sleeping Environments*, was awarded to Technical University of Denmark for a period of 36 months at a total cost to ASHRAE of \$230,541. (Appendix RA-A)

11. NEW BUSINESS

Mick Schwedler thanked the outgoing members for their service and presented them with certificates of appreciation.

There being no further business to come before the Council, the meeting was adjourned.