



**TECHNOLOGY COUNCIL MEETING**  
Summer Conference, Houston, TX  
Wednesday, June 27, 2018

***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  
2018-6 Annual - Houston.*

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**MAJOR MOTIONS PASSED**  
 Summer Conference, Houston, TX  
 Wednesday, June 27, 2018

Motion #	Description
M1	Technology Council endorsed ASHRAE's participation in the Great Predictor Shootout 3.
M2	Technology Council approved that ASHRAE serve as a co-sponsor to the new Standard Project Committee BSR/ASABE EP653 -201x, <i>Recommended Practice for Heating, Ventilation and Air Conditioning (HVAC) Products Used in Indoor Plant Growth and Development</i> with ASABE as the lead organization.
M3A/B/C	Technology Council approved travel reimbursement for participants in ISO activities of \$30,000.
M4A/B/C	Technology Council approved ASHRAE's support and endorsed the efforts by ISO TC 86/SC 8 to evaluate the differences between ISO 817 and ASHRAE Standard 34 and to submit proposals to ISO and ASHRAE to change each standard in to order to converge the requirements, contingent on receipt of funding.
CM5	Technology Council approved consent motions 1 through 23 having no unresolved commenters and no negative votes from the project committee or Standards Committee for publication approval. All motions were approved for publication.
M6	Technology Council approved BSR/ANSI/ASHRAE/ICC/USGBC/IES Addendum <i>ck</i> (adds an additional modeling requirement) to ANSI/ASHRAE/ICC/ USGBC/IES Standard 189.1-2017, <i>Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings</i> , for publication.
M7	Technology Council recommended to the BOD that the Rules of the Board (ROB) 2.406.002 Membership (2.406.002.1 Composition) be revised as presented.
M8	Technology Council recommended to the BOD that the proposed changes to Appendix A, Procedures for ASHRAE Special Projects, of the Tech Council MOP be approved as presented.
M9	Technology Council recommended to the BOD ExCom to initiate a position document (PD) on Indoor Carbon Dioxide.
M10	Technology Council recommended that the BOD approve the revision to the Refrigerants and their Responsible Use PD.
M11	Technology Council reaffirmed the Limiting Indoor Mold and Dampness in Buildings PD.
M12-20	Technology Council approved research projects 1579, 1707, 1720, 1769, 1778, 1800, 1801, 1814, and 1844

### REFERRALS

Summer Conference, Houston, TX  
Wednesday, June 27, 2018

REF #	Responsibility	Sent to:	Status	Summary
1	Tech Staff	Members Council		Is TAC Section Head and TC feedback on programs and meetings tracks effective and useful to CEC? If so, TAC has agreed to do reviews again for the Atlanta meeting. If long term collaboration is desired, this task should be added to both the CEC and TAC MOPs.
2	Tech Staff	Members Council		Commercialism reviews conducted by CEC for Society programs should only strictly adhere to the Board approved Commercialism policy and not exceed it.

### ACTION ITEMS

Summer Conference, Houston, TX  
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AI #	Responsibility	Goal Due Date	Status	Summary
1	Standards		Complete	StdC to review Standards Committee Reference Manual regarding transportation vs. travel reimbursement for ISO meetings.
2	Staff			Work with ANSI ISO Staff and SSPC 34 to develop a way to have one standard similar to the process used by SSPC 135.
3	Staff		Complete	Send changes to the Special Projects Procedures in TechC MOP appendix A to SRC for review.
4	CO <sub>2</sub> PD Chair			Ensure that cognizant technical committees are informed and involved
5	OPS			Review and determine if revisions can be made. If so, develop rewording of ROB 1.201.004.9. OPS can use outside folks.
6	OPS			Review status of Residential Buildings Committee

**MINUTES**  
**TECHNOLOGY COUNCIL MEETING**  
Summer Conference, Houston, TX  
Wednesday, June 27, 2018

**Attendance:**

**Voting Members Present**

Ginger Scoggins, Chair  
Mick Schwedler, Vice Chair  
Van Baxter  
Mike Bilderbeck  
Charlie Culp  
Douglas Fick  
Ken Fulk  
Art Giesler  
Byron Jones  
Tom Lawrence  
Larry Markel  
Mark Modera  
Doug Reindl  
Bill Walter

**Non-Voting Members Present**

Don Brundage  
Kelley Cramm  
Martin Dieryckx  
Steve Emmerich  
Elliott Horner  
Kishor Khankari  
Cesar Lim  
Chris Mathis  
Lan Chi Weekes  
Theresa Weston

**Absent**

Tom Justice  
Nicholas Shockley  
John Shonder

**Guests**

Chris Balbach  
Richard Fox  
Dennis Knight, Incoming Vice Chair  
Florian Mayer  
Omar Rojas

**ASHRAE Staff**

Joyce Abrams, Director of Member Services  
Steve Ferguson, Sr. MOS  
Steve Hammerling, AMORTS  
DD Latham, Admin  
Susan LeBlanc, Standards Admin  
Jeremy Pollack, Mgr of Government Affairs  
Lilas Pratt, MOSP  
Stephanie Reiniche, DOT  
Jim Scarborough, Sr Mgr of State/Local Government Affairs  
Mike Vaughn, Sr. MORTS  
Alice Yates, Director of Government Affairs

**1. CALL TO ORDER**

Chair, Ginger Scoggins, called the meeting to order at 9:05 a.m. Vice Chair, Mick Schwedler, was asked to record any action items during the meeting.

*Secretary's Note: Quorum was met with 13 voting members, plus Chair.*

**2. REVIEW OF AGENDA**

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

**3. STANDING COMMITTEE REPORTS**

**A. Technical Activities (TAC)**

Chair, Kelley Cramm, provided updates on TAC activities. The formal motions were presented as shown below. The TAC report can be found on Basecamp in the 2018\_06 Annual Houston file (03B-TAC A128 Draft1).

TAC recommended that Technology Council send to Members Council and CEC the following two referrals for consideration:

*Referral#1 - Is TAC Section Head and TC feedback on programs and meetings tracks effective and useful to CEC? If so, TAC has agreed to do reviews again for the Atlanta meeting. If long term collaboration is desired, this task should be added to both the CEC and TAC MOPs.*

*Referral#2 - Commercialism reviews conducted by CEC for Society programs should only strictly adhere to the Board approved Commercialism policy and not exceed it.*

*Secretary's Note: A formal motion was not made but there was consensus to share the above with Members Council and CEC.*

It was moved by Tom Lawrence and seconded by Larry Markel that:

- M1** Technology Council endorse ASHRAE's participation in the Great Predictor Shootout 3.

**BACKGROUND:** This would be similar to contests ASHRAE did in the 1990's that involve using data-driven models to predict the energy consumption of buildings. A "data science platform" owned by Google ([www.kaggle.com](http://www.kaggle.com)) would be utilized and is free to ASHRAE as a non-profit organization. Kaggle is a platform for administering data science competitions, bringing together the world's largest community of data scientists to consult on some of the toughest data science problems. Kaggle also supports recruiting strong teams that amplify the power of the global data science community. TC 4.7 has agreed to lead effort with support from TC 1.5 and 7.5. Staff support is requested but no fiscal commitment. The staff time will be minimal.

**TECH VOTE:** 13-0-0, CNV

#### **B. Environmental Health (EHC)**

Vice Chair, Elliott Horner, gave a verbal update on EHC activities. No formal motions were presented at this time. The EHC information report can be found on Basecamp in the 2018\_06 Annual Houston file (6.2 EHC Rprt to DRSC.18.A)

#### **C. Refrigeration (REF)**

Vice Chair, Martin Dieryckx, reported on REF activities. No motions were brought forward. The REF information items report can be found on Basecamp in the 2018\_06 Annual Houston file (03D-REF Rprt to TechC.18.A).

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

Chair, Chris Mathis updated the council on RBCs activities. No formal motions were presented. The RBC information report can be found on Basecamp in the 2018\_06 Annual Houston file (03E\_RTBC\_Report\_to\_TechC\_2-18-6-25\_F).

#### **E. Research Administration (RAC)**

Chair, Kishor Khankari, reported on RAC activities. Formal RAC motions would be brought forward during the Executive Session of the meeting.

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

Chair, Steve Emmerich, provided updates on StdC activities. The formal motions were presented as shown below. The StdC report can be found on Basecamp in the 2018\_06 Annual Houston file (03A\_StdC Report to TC Houston 2018 06-27-18 with votes).

It was moved by Larry Markel and seconded by Van Baxter that:

- M2** Standards Committee recommend that ASHRAE serve as a co-sponsor to the new Standard Project Committee BSR/ASABE EP653 -201x, *Recommended Practice for Heating, Ventilation and Air Conditioning (HVAC) Products Used in Indoor Plant Growth and Development* with ASABE as the lead organization.

**BACKGROUND:** On November 26, 2017, ASHRAE submitted a comment on the PINS to BSR/ASABE EP653 -201x, *Recommended Practice for Heating, Ventilation and Air Conditioning (HVAC) Products Used in Indoor Plant Growth and Development* (new standard). As part of the PINS deliberation, it was agreed to by ASABE and ASHRAE that the proposed standard would not duplicate/conflict with existing ASHRAE Standards. It was also recommended by the ASHRAE BOD ExCom that we explore co-sponsoring the standard with ASABE, with ASABE being the lead organization. After a few rounds of revisions between ASHRAE and ASABE staff, a joint sponsorship agreement has been developed.

**TECH VOTE:** 10-0-3<sup>1</sup>, CNV

It was moved by Larry Markel and seconded by Bill Walter that:

- M3A** Standards Committee recommend that ASHRAE allow \$100,000 for the 18-19 Society Fiscal Year travel reimbursement for participants in International Organization of Standardization (ISO) activities.

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<sup>1</sup> Mike Bilderbeck, Doug Reindl and Charlie Culp abstained.

**BACKGROUND:** During the Standards Committee meeting in January 2018, ILS/ISAS reported that:

*“Invest in and Recognize Participation:* ILS/ISAS discussed the need for financial aid to help members participate in the development of international standards. Travel costs for attending international meetings has been identified as a roadblock. The report estimated that the fiscal impact to ASHRAE would be approximately \$500,000 per year. ILS/ISAS recommended that the budget be considered based on current participation. With an estimate of approximately 30 ASHRAE members attending international meetings in 2017, and using ASHRAE's current travel reimbursement cap of \$4,500 for technical committee and subcommittee chairs, ILS/ISAS acknowledges there will be an impact to the budget. Current estimates are that the fiscal impact will be approximately \$135,000.”

During the ILS/ISAS Teleconference on May 4, 2018, this need for investment to ensure participation was discussed. At the time, it was understood that 1) there are some funds available from the ASHRAE Foundation for Standards Expediting work, and 2) The Society is working in an expected budgetary deficit for the next few Society years. As a result, ILS/ISAS requested the funds for this work for Fiscal Year 18/19 be approximately equal to that amount available from the ASHRAE Foundation for Standards Expediting. This motion was approved by Standards Committee via letter ballot on June 12, 2018. After the close of the letter ballot, it was determined that the funds were not actually available for use for this purpose.

Standards Committee still believes funding for this work is necessary in order for ASHRAE to have an impact in International Standards Development, and is still requesting these funds.

The goal of this effort is to promote, educate, and encourage participation in the development of international standards in order to facilitate the adoption of ASHRAE standards in ISO, CEN, and other international standards bodies. Currently there is a reimbursement process for ISO TC and Subcommittee/WG Chairs. Procedure revisions to the Standards Committee Reference Manual have been approved to expand reimbursement opportunities to all members and provide rules for how funds are requested, approved, and disbursed. In calendar year 2017, there were 13 TC/WG meetings, 4 were unattended, 1 Subcommittee Chair trip was reimbursed, and at least 22 trips from ASHRAE members were self-funded.

**M3B** After a short discussion on the \$100,000 request for the 18-19 Society Fiscal Year travel reimbursement for participants in International Organization of Standardization (ISO) activities, it was moved by Larry Markel and seconded by Van Baxter

To amend the motion to from \$100,000 to \$30,000.

**Motion to Amend Vote: TECH VOTE:** 13-0-0, CNV

**M3C** **Amended motion:** that the Technology Council approve travel reimbursement for participant in ISO activities of \$30,000.

**Amended Motion Vote: TECH VOTE:** 13-0-0, CNV

*Note: The feeling is to start at the \$30,000, review expenditures and results to see what ASHRAE gains from this amount first. This amount could be found shifting monies within the existing budget. Staff noted that the money would not come from the Foundation as this money is reserved for expediting of U.S. Standards.*

*Ai#1 – StdC to review Standards Committee Reference Manual regarding transportation vs. travel reimbursement for ISO meetings.*

It was moved by Larry Markel and seconded by Van Baxter that:

**M4A** ASHRAE support and endorse the efforts by ISO TC 86/SC 8 to evaluate the differences between ISO 817 and ASHRAE Standard 34 and to submit proposals to ISO and ASHRAE to change each standard in to order to converge the requirements.

**BACKGROUND:** ASHRAE Standard 34 and ISO Standard 817 are not aligned on the definition of metrics for refrigerant safety, and there is a growing interest in both ISO and ASHRAE to reach alignment. The long term vision is to have only one standard on refrigerant safety data, and this can only be achieved if there is agreement on the metrics used for refrigerant safety. Currently, there is overlap and duplication in efforts on both the work of ISO Standard 817 and ASHRAE Standard 34. While ideally it would be better for this work to be done within the technical committees there has been difficulty reaching agreement and a neutral party that could facilitate

these efforts is needed. This is the first time we have requested to pay a consultant to facilitate standards development. During the last meeting of ISO TC 86/Subcommittee (SC) 8, the SC resolved to establish an Ad hoc working group to resolve the differences between ISO 817 and Standard 34. The working group would have as a starting point a previously created list of the differences in the two documents. Funding is being solicited from the manufacturers involved in the development of SSPC 34 and ISO/TC 86/SC 8. That funding will be used to support the effort. If approved, this work would be budget neutral as manufacturers have agreed to reimburse ASHRAE expenses.

It was moved by Charlie Culp and seconded by Ken Fulk:

**M4B** That the motion be amended to add “contingent on receipt of funding”

**Motion to Amend Vote: TECH VOTE: 12-0-1, CNV**

**M4C** **Amended motion:** that ASHRAE support and endorse the efforts by ISO TC 86/SC 8 to evaluate the differences between ISO 817 and ASHRAE Standard 34 and to submit proposals to ISO and ASHRAE to change each standard in to order to converge the requirements, contingent on receipt of funding.

**Amended Motion Vote: TECH VOTE: 8-3-2<sup>2</sup>, CNV**

*Secretary's Note: There was a lot of discussion on this motion. Concerns were raised about the impact this work would have on Standard 34. This motion came from an ISO resolution and during the resolution several manufacturers agreed to assist in funding the efforts through a neutral source. It was suggested that ASHRAE would be the best option. Changes would be submitted to both ISO 817 and Standard 34. The two published standards could be different from each other. This would be a Tech Council project and Standards/Tech Council would oversee the progress. There was a strong desire to work towards the same model used when ASHRAE Standard 135 is/was adopted by ISO. An action item (that mirrored the StdC action item) was approved.*

*AI#2 - Staff to work with ANSI ISO Staff and SSPC 34 to develop a way to have one standard similar to the process used by SSPC 135.*

**CM5** Consent motions 1 through 22 have no unresolved commenters and no negative votes from the project committee or Standards Committee for publication approval. Doug Reindl asked that agenda items 21 and 22 be pulled for separate review because he is a member of SSPC 15. Tom Lawrence asked that motion 23 be pulled for separate review because he's an SSPC 189.1 member.

Consent motions 1-22 were moved by Larry Markel and seconded by Doug Fick that the following as shown below be approved for publication:

1. BSR/ASHRAE Addendum *g* (make 2L a separate classification of refrigerants) to ANSI/ASHRAE Standard 34-2016, *Designation and Safety Classification of Refrigerants*.
2. BSR/ASHRAE Addendum *i* (adds the zeotropic refrigerant blend R-463A) to ANSI/ASHRAE Standard 34-2016, *Designation and Safety Classification of Refrigerants*.
3. BSR/ASHRAE Addendum *o* (adds the zeotropic refrigerant blend R-436C) to ANSI/ASHRAE Standard 34-2016, *Designation and Safety Classification of Refrigerants*.
4. BSR/ASHRAE Addendum *f* (ventilation efficiency (Ev)) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.
5. BSR/ASHRAE Addendum *g* (definition of an occupiable space) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.
6. BSR/ASHRAE Addendum *h* (adds informative text that is contained in the current scope) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.
7. BSR/ASHRAE Addendum *j* (updates the informative notes in Section 4, Outdoor Air Quality) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.
8. BSR/ASHRAE Addendum *w* (laboratories compliance with ANSI/AIHA Z9., Standard for Laboratory Ventilation) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.

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<sup>2</sup> Bill Walter and Mick Schwedler abstained.



9. BSR/ASHRAE Addendum z (*Ev rate per unit area*) to ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*.
10. BSR/ASHRAE/IES Addendum o (*makes improvements to Section 5.8 and x.7 sub-sections*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
11. BSR/ASHRAE/IES Addendum x (*clarifies compliance path*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
12. BSR/ASHRAE/IES Addendum ab (*clarifies the definitions and classifications of doors and fenestration*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
13. BSR/ASHRAE/IES Addendum ac (*clarifies the application of particular definitions*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
14. BSR/ASHRAE/IES Addendum ad (*requirements for showing compliance*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
15. SR/ASHRAE/IES Addendum ae (*clarifies section 6.4.3.6*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
16. BSR/ASHRAE/IES Addendum ag (*inclusion of automatic receptacle controls*) to ANSI/ASHRAE/ IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
17. BSR/ASHRAE/IES Addendum ah (*updates language and terminology in section 9.1.4*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
18. BSR/ASHRAE/IES Addendum ak (*incorporates SHGC values*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
19. BSR/ASHRAE/IES Addendum am (*adds a method to exempt pool room dehumidifiers from exhaust air energy recovery*) to ANSI/ASHRAE/IES Standard 90.1-2016, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.
20. BSR/ASHRAE Addendum h (*Code-intended language*) revisions to ANSI/ASHRAE Standard 188-2015, *Legionellosis: Risk Management for Building Water Systems*.

**TECH VOTE:** 13-0-0, CNV

Consent motions 21 and 22 were moved by Larry Markel and seconded by Doug Fick that the following be approved for publication:

21. BSR/ASHRAE Addendum a (*regulation of ammonia refrigeration systems*) to ANSI/ASHRAE Standard 15-2016, *Safety Standard for Refrigeration Systems*, be approved for publication.
22. BSR/ASHRAE Addendum e (*requirements for refrigerant changes*) to ANSI/ASHRAE Standard 15-2016, *Safety Standard for Refrigeration Systems*, be approved for publication.

**TECH VOTE:** 12-0-1<sup>3</sup>, CNV

It was moved by Larry Markel and seconded by Doug Fick that the following be approved for publication:

- M6** BSR/ANSI/ASHRAE/ICC/USGBC/IES Addendum ck (*adds an additional modeling requirement*) to ANSI/ASHRAE/ICC/ USGBC/IES Standard 189.1-2017, *Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings*, be approved for publication.

**TECH VOTE:** 12-0-1<sup>4</sup>, CNV

<sup>3</sup> Doug Reindl abstained as he is a member of SSPC 15.

<sup>4</sup> Tom Lawrence abstained because he is a member of 189.1.

#### 4. SUBCOMMITTEE REPORTS

##### A. Operations (OPS)

Chair, Art Geisler, updated the council on Operations activities. Motions presented are shown below. The full Operations report can be found on Basecamp in the 2018\_06 Annual Houston file (04A Final OPS Report to TechC 6\_26\_2018).

It was moved by Art Giesler that:

- M7** Technology Council recommend to the BOD that the Rules of the Board (ROB) Section 2.406.002, Membership, be revised as shown:

##### **2.406.002 MEMBERSHIP**

###### 2.406.002.1 Composition

The members of this committee are as follows

A. Maximum of fifteen (15) voting members, including a chair and vice chair;

B. Voting members shall include at least:

1. ~~a one~~ past member of the Standards Committee.
2. ~~a one~~ past member of the Research Administration Committee (Research Liaison for 2.0,4.0,or 5.0)
- ~~3. a physician~~
4. ~~a one~~ past chair of a technical committee involved in environmental health or indoor air quality issues.
5. ~~a one~~ member from outside the U.S. and Canada
6. ~~at least one two~~ Health Professionals (such as an industrial hygienist, physician, ~~an~~ epidemiologist, or a public health official.)
7. one past Society officer who has recently served in that capacity.

(85-06-27-58/86-06-22-22/98-01- 16-16/07-03-02-6B)

**BACKGROUND:** Several physicians have served on the Environmental Health Committee (EHC) since the inception of the EHC. However, even though multiple members of EHC have sought to recruit and continue to seek physician inclusion, there have been times when no physician was a member of the committee. At present, and at least for the last two (2) years, there has not been a physician member.

The current membership of EHC strongly favors having a physician member of the EHC and will continue to seek a physician that is willing to serve on the EHC. However, EHC recommends that ROB 2.406.002.1 be amended by deleting the requirement for a physician (ROB 2.406.002.1.B.3) in the composition of the EHC.

**FISCAL IMPACT:** None

**TECHC VOTE:** 13-0-0, CNV

It was moved by Art Giesler that:

- M8** Technology Council recommend to the BOD that the Tech Council MOP Appendix A be revised as shown.

##### 1.3 Administration of Regular Special Projects

The administrative responsibilities for Regular Special Projects are handled by the following committees.

ASHRAE Special Projects Subcommittee is a A Subcommittee of Technology Council that is responsible for the administrative and financial oversight of all Regular Special Projects. The Special Projects Subcommittee ratifies approval of the initiation of all Special Projects, designates the Cognizant Committee, and ratifies the membership of the Special Project Committee.

Special Project Committee (Project Committee) is a A committee assigned specific responsibilities for managing, and in some cases conducting, a Special Project. The committee and its chair shall be appointed by the Cognizant Committee, with input from the Director of Technology and the ASHRAE Special Projects Subcommittee. All members need not be ASHRAE members, however, the chair must be. In the case of an ASHRAE research project this committee may be the Project Monitoring Subcommittee of the Cognizant Committee.

Cognizant Committee is a A committee designated by Technology Council or by a Standing Committee reporting to Technology Council to provide overall supervision of a Special Project. The Cognizant Committee shall approve the initiation of and the final product of the Special Project, and shall appoint the Special Project Committee roster ~~(with ratification by the ASHRAE Special Projects Subcommittee)~~. Special Project Committee rosters that are not approved by RAC or Standards Committee will be approved by Special Projects Subcommittee. The Cognizant Committee also develops the project Work Statement, ~~and approves~~ recommends their contractor selection for approval, and approves project completion. The Cognizant Committee shall provide status updates ~~report~~ to the ASHRAE Special Projects Subcommittee regarding the Special Project.

## 1.5 Preparation of Proposals to Solicit or Negotiate Funding

### 1.5.1 Required Information

The preparation of proposals to solicit funding requires a Work Statement, knowledge of the number of meetings to be funded, the anticipated locations of those meetings, and the number of individuals who will be participating on the Project Committee.

### 1.5.2 Preparation of Work Statement

The cognizant committee prepares a statement of work to be performed for issuance of a Request for Proposal (RFP), and submits that to the Special Projects Subcommittee. . Work statements that are not approved by RAC or Standards Committee will be reviewed and approved by Special Projects Subcommittee. However, unless internally funded, it is desirable to determine through the Director of Technology, or his/her designee, that outside funding is available and that the Work Statement is acceptable to the outside organization. This will usually require reconsideration by the cognizant committee and, in some cases, the Board of Directors, and consummation of a Special Project contract before the RFP is issued. The RFP, which will show the level of effort (if known), will be sent to prospective contractors.

If in the course of the project supplemental funding is obtained, and/or the scope of work changes, a revised Work Statement must be approved by the Special Projects Subcommittee, if not approved by RAC or Standards Committee.

## 1.6 Contractor Solicitation and Selection

On some projects it will not be feasible for the Project Committee to perform the work. This type of project, such as writing a special publication or conducting research, usually requires an extensive amount of work from an individual or organization (the contractor) selected through a competitive bid or sole- source procedure. In such cases the Project Committee will supervise the work of the contractor.

### 1.6.1 Contractor Selection

The Project Committee shall review prospective contractors' proposals, evaluate the competency of those desiring to do the work, and recommend to the cognizant committee the one considered to be best for the assignment. Contractor selections that are not approved by RAC or Standards Committee will be reviewed and approved by Special Projects Subcommittee. ~~Final approval for selection of the contractor rests with the Special Projects Subcommittee.~~

**BACKGROUND:** Special Projects Subcommittee has recommended proposed changes to the Special Projects Procedures outlined in the Technology MOP (Appendix A) in order to insure that the procedures for User's Manuals align with the recently updated procedures in the Standards Committee MOP. These changes remove unnecessary duplication and redundancy for the approvals of rosters, work statements, and contractors for projects that are also receiving oversight by either Standards Committee or Research Administration Committee (RAC). Initial project approval would still be required by Special Projects Subcommittee for all special projects.

**TECHC VOTE:** 13-0-0, CNV

*AI#3 – Send changes to the Special Projects Procedures in TechC MOP appendix A to SRC for review.*

## B. Special Projects

Chair, Ken Fulk, updated the council on Special Projects activities. No formal motions were presented. The Special Projects information report can be found on Basecamp in the 2018\_06 Annual Houston file (04B\_Spc\_Proj\_Report\_to\_TechC\_2018-6-26).

### C. Document Review (DRSC)

Chair, Mick Schwedler, updated the council on DRSC activities. The motions that were presented are shown below. The full DRSC report can be found on Basecamp in the 2018\_06 Annual Houston file (04C-DRSC Rprt to TechC.18.A)

It was moved by Mick Schwedler that:

- M9** Technology Council recommend that the BOD ExCom initiate a position document (PD) on *Indoor Carbon Dioxide*.

**BACKGROUND:** The title, purpose and scope (TPS), background information, and list of ASHRAE members and committees that could participate on the PD committee, is included in attachment **ATT-A**.

**TECHC VOTE:** 13-0-0, CNV

*AI#4 – Ensure that cognizant technical committees are informed and involved with this new PD regarding Indoor Carbon Dioxide,*

It was moved by Mick Schwedler that:

- M10** Technology Council recommend that the BOD approve the revision to the *Refrigerants and their Responsible Use* PD.

**BACKGROUND:** Since the initial publication of the PD in 2012, much has happened since with updates to the Montreal Protocol, A2L refrigerants and other refrigerant developments. The revisions to the PD address the latest Montreal Protocol amendments, updates on HFC and HFO use, and more recent regulations. UNEP and other audiences is looking to ASHRAE for updated guidance.

**TECHC VOTE:** 13-0-0, CNV

It was moved by Mick Schwedler that:

- M11** Technology Council reaffirm the *Limiting Indoor Mold and Dampness in Buildings* PD.

**BACKGROUND:** The current PD expires Jan. 27, 2019. EHC will evaluate if a full revision is warranted and report in the Fall. Re-affirming the PD now prevents the PD from expiring.

**TECHC VOTE:** 13-0-0, CNV

### 5. AD HOC UPDATES

#### A. Nominations Ad Hoc

Mick Schwedler reported on the nominations procedure and some of the members discussed for nomination, and who is willing to serve on the ad hoc. Mick also asked the council members to bring forward at least two members for nomination consideration.

#### B. Disaster Response Ad Hoc

Larry Markel reported on the Disaster Response ad hoc. A written report is available on Basecamp under 2018\_6\_4\_Pre-Houston Conference (07B Disaster Response Ad Hoc Status Report 23 May 2018).

### 6. LIAISON REPORTS

#### A. GGAC

Mike Bilderbeck reported on the activities of GGAC and discussed the package that was provided to the volunteers for their use on the Day on the Hill activities.

#### B. Finance

Ginger Scoggins reported that the budget would be tight this next year. Some unused funds were found and the budget needs to be lowered by another 40K. This will be an ongoing effort next year. The next three years have projected deficits for the society. Initiatives and programs need to be weighed in terms of their value.

### C. Society Planning

Mick Schwedler stated that the committee is working hard towards a new Strategic Plan approval for 2019. Members will have opportunity to review prior to approval. Drafts will be available soon for input

### D. Society Rules Committee (SRC)

Art Geisler reported on the updated MOP and ROB changes. SRC is looking at a possible fall conference call in October.

## 7. ADDITIONAL TOPICS FOR DISCUSSION

### A. Tech Council 2018-19

Mick Schwedler gave a brief update on Tech Council Subcommittee and Liaison Assignments and 2018-19 Tech Council MBOs. A meeting was scheduled in late July with the subcommittee chairs/vice chairs to discuss and complete the 2018-19 MBOs.

### B. ROB 1.201.004.9 regarding IAQ item

See item #8 regarding discussion on postponed motion below.

### C. Update on Membership Model Ad-hoc work

Ginger Scoggins reported that this Ad-hoc is considering many options such as free standards to all members and a potential tiered membership structure. They are also considering the implications a potential change may have in terms of dues and dollars.

### D. RBC Status

Mick Schwedler reminded the members that new standing committees are required, per the Rules of the Board, to review their responsibilities and determine if they should continue, have its purpose modified, or a different alternative chosen. This is to be done by the time the committee hits the five year mark.

*AI#6 – OPS to review status of Residential Building Committee.*

### E. ASHRAE/ISHRAE Exploratory Meeting results

Mick Schwedler reported that there was a meeting with several representatives from ISHRAE, 90.1, and ASHRAE to discuss the potential for adaptation of 90.1 for codes in India. This was just an exploratory meeting. More updates to follow.

## 8. POSTPONED MOTION

The following motion was postponed in Chicago and an action item was assigned to staff to obtain an Interpretation from ANSI and legal advice. The motion was placed back on the table for a vote.

Operations Subcommittee (OPS) recommended to Technology Council to recommend to the BOD, that the Rules of the Board (ROB) be revised as shown:

~~1.201.004.9 Indoor Air Quality or Ventilation Standards. Any existing and all future ASHRAE indoor air quality or ventilation code-intended standards must meet the following requirements:~~

~~A. The standard shall specify concentration limits of only those specific contaminants for which a nationally or internationally recognized authority (such as US EPA, OSHA or the World Health Organization) has established a maximum permissible concentration limit and for which standardized test procedures have been established. Nationally or internationally recognized authorities and procedures may be those developed by ANSI consensus procedures for private standards-setting organizations, those established by statute, or those duly adopted regulations issued by governmental agencies.~~

~~B. The standard may specify means and methods for limiting concentration of pollutants, provided they are related to contaminants normally considered in the design of HVAC systems serving the relevant space type.~~

~~C. The standard shall not require the measurement of contaminant or other airborne concentrations except those that can be measured using standardized test equipment and procedures in accordance with ASHRAE Standard 111 (or its successor) or other consensus Methods of Test. Standardized test equipment is defined as equipment normally available in the HVAC&R industry to test and balance technicians or that is common in building ventilation assessment.~~

~~D. The standard shall not make any claims or guarantees that compliance will provide health, comfort or occupant acceptability, but shall strive for those objectives, consistent with ASHRAE policy.~~

~~E. The standard may contain factors for use in design of calculations such as mixing efficiencies and air change effectiveness, as long as it is the consensus of the standards-writing body that these factors are important to providing acceptable indoor air quality.~~

**BACKGROUND:** This ROB was developed many years ago in response to a series of membership votes on indoor air quality issues and reports from presidential ad hoc committees, driven by the concerns on the part of some ASHRAE members that our indoor air quality standards were inappropriately addressing health issues. The ad hoc committee findings and other BOD-level discussions concluded that it was entirely appropriate for ASHRAE standards to be motivated by health, as they had been for many years. The rule proposed for deletion was developed to quell some remaining concerns. However, this rule has not been invoked since its adoption and it may be inconsistent with the key ANSI principle that the consensus body (the standard project committee in the case of ASHRAE) be solely responsible for the content of a standard.

**TECHC VOTE:** 5-6-1, CNV, Motion Failed

*AI#5 – OPS to review and determine if revisions can be made. If so, develop rewording of ROB 1.201.004.9. OPS can use outside folks.*

## **9. 2018-19 TECHNOLOGY COUNCIL LEADERSHIP**

Chair Scoggins thanked everyone for their continued support during the 2017-18 year. Certificates of Appreciation were given out to those stepping down from the council in June 2018.

## **10. TECHNOLOGY DEPARTMENT REPORT**

Technology Department status report is available on Basecamp the 2018\_06 Annual Houston file (09 DOT Report).

## **11. EXECUTIVE SESSION**

The following research projects passed out of Tech Council.

**M12** It was moved by Tom Lawrence and seconded by Van Baxter that:

A. Research project 1579-TRP, *Testing and Evaluation of Ozone Removal Air Cleaning Devices for Improving IAQ*, be awarded to the University of Texas- Austin for a period of 18 months at a total cost to ASHRAE of \$168,617

**M13** It was moved by Doug Fick and seconded by Tom Lawrence that:

B. Research project 1707-TRP, *Annoyance Thresholds of Tones in Noise as Related to Building Services*, be awarded to Purdue University for a period of 18 months at a total cost to ASHRAE of \$136,552.

**M14** It was moved by Tom Lawrence and seconded by Van Baxter that:

C. Research project 1720-TRP, *Validation of gas-phase air-cleaner performance test method (Standard 145.2) by laboratory testing of commercially available filtration devices*, be awarded to the Owen Air Filtration Consulting, LLC for a period of 24 months at a total cost to ASHRAE of 140,000.

**M15** It was moved by Tom Lawrence and seconded by Van Baxter that:

D. It is recommended that tentative research project 1769-TRP, *Experimental Evaluation of the Efficiency of V-Belt Drives Used on Fans*, be awarded to the AMCA International, Inc. for a period of 24 months at a total cost to ASHRAE of \$124,200.

**M16** It was moved by Doug Fick and seconded by Van Baxter that:

- E. Research project 1778-TRP, *Heat and Moisture Load from Commercial Dishroom Appliances and Equipment*, be awarded to Frontier Energy, Inc. for a period of 18 months at a total cost to ASHRAE of \$198,940.

**M17** It was moved by Doug Fick and seconded by Van Baxter that:

- F. Research project 1800-TRP, *Spray Evaporation on Enhanced Tube Bundles with Low GWP pure Refrigerants and Refrigerant/Miscible Oil Mixture*, be awarded to the Auburn University for a period of 30 months at a total cost to ASHRAE of \$150,742.

**M18** It was moved by Doug Fick and seconded by Van Baxter that:

- G. Research project 1801-TRP, *Standardizing and Utilizing ASHRAE Online BIM Data Exchange Protocols*, be awarded to the Hitchcock Consulting for a period of 18 months at a total cost to ASHRAE of \$105,000.

*Secretary's note: Chair asked Charlie Culp to step out of the room for the next motion due to a conflict of interest.*

**M19** It was moved by Doug Fick and seconded by Van Baxter that:

- H. Research project 1814-TRP, *Actual Energy Performance of Secondary Schools and Medium Offices Designed to Comply with ASHRAE Standard 90.1-2010*, be awarded to the Seventhwave for a period of 20 months at a total cost to ASHRAE of \$144,288.

*Secretary's Note: Charlie Culp rejoined the meeting at this time.*

**M20** It was moved by Doug Fick and seconded by Van Baxter that:

- I. Research project 1844-URP, *Estimating Internal Moisture Generation Rates in New, Occupied Homes*, be awarded to University of Central Florida for a period of 29 months at a total cost to ASHRAE of \$142,378.

## **12. ADJOURN**

There being no further business coming before the council, the meeting was adjourned at 11:50 AM.