



Minutes
Chapter Technology Transfer Committee

Friday, June 24, 2022
Full Committee – 8:00am-12:00pm – [WebEx](#)
Saturday, June 25, 2022
Full Committee – 8:00am-12:00pm – [WebEx](#)

Action Items

| No. – Pg. | Assignment | Action |
|------------------|----------------------------|---|
| 1 – 2 | Staff | Staff to continue to work with IT on testing the digital DL form |
| 2 – 2 | Holmes | Look at the logistical feasibility of recording multiple Tech Hours at ASHRAE HQ during the 2023 Winter Conference in Atlanta |
| 3 – 2 | Redmond | Review program idea slides |
| 4 – 4 | RVCs | Start tracking in-person vs. virtual attendance for hybrid CRC meetings |
| 5 – 4 | DL Working Group | Review the DL statistics reported and necessary DL forms |
| 6 – 4 | DL Working Group and Staff | Clarify the time zone on the DL invitation |
| 7 – 4 | Constantinide | Confirm with TAC future breakfast plans and liaison communication |
| 8 – 4 | Staff | Prepare plan for updated new member orientation |

Motions

| No. – Pg. | Status | Action |
|------------------|---------------|---|
| 1 – 2 | Passed | Approval of previous CTTC meeting minutes from January 28 & 29, 2022 |
| 2 – 2 | Passed | That the Chapter Technology Transfer Committee (CTTC) Manual of Operating Procedures (MOP) be updated as follows, effective immediately |
| 3 – 3 | Passed | That the Chapter Technology Transfer Committee (CTTC) Resource Manual be updated as follows, effective immediately |
| 4 – 4 | Passed | Approve updates to Technology Award submission form |

Full Committee Agenda – Friday, June 24, 2022

1. **Call to Order** – Al Tassi
2. **Roll Call/Introduction of Guests** – Al Tassi
3. **ASHRAE Code of Ethics Commitment** – Al Tassi
In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest. (See full Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>)
4. **ASHRAE Simplified Rules of Order (Attachment A)**
 - a. At the 2022 Winter Conference, the BOD approved the ASHRAE Simplified Rules of Order and Meeting Fundamentals as the new rules of order to be used at all levels of Society. The intent of the new rules is to streamline meetings by providing simpler meeting guidance, allowing members to focus more on business and not the details of parliamentary procedure.

Councils and Committees are expected to be fully operational in the new meeting guidance beginning July 1, 2022.

- b. Please familiarize yourself with the attached quick reference document. These rules should be used in place of Roberts Rules of Order during all Society meetings.
5. **Review of Agenda** – Al Tassi
6. **Approval of Minutes** – January 28 & 29, 2022 Meetings – Al Tassi (**Attachment B**)
 - a. **Motion #1:** Moved by Reilman, seconded by Rivera. 16-0-0.
7. **Review of Action Items** – Al Tassi (**Attachment C**)
8. **Remarks**
 - a. BOD Ex-Officio – Ashish Rakheja (**Attachment P**)
9. **Special Reports**
 - a. Certification – Grant Page, Certification Committee Member (**Attachment N**)
 - b. REF-CPCC – Charles Hon, REF-CPCC Committee Member (**Attachment O**)
 - c. Communications, Thursten Simonson, Communications Committee Member
10. **Ad Hoc Reports**
 - a. DL Automation (**Attachment D**)
 - i. Members: Daniel Redmond (Chair), John Constantinide, Ahmad Nour, Grant Page
 - ii. We are continuing to test the digital form so that a copy can be sent to the corresponding RVC and CTTC Chapter Chair. Once testing is complete, we will test in the fall and hope to have a final version by the 2023 Winter Conference.
 1. **Action Item #1:** Staff to continue to work with IT on testing the digital form
 - iii. The following CTTC members have been added to this ad hoc: Abhi, Aru, Osama, and Frank
 - iv. Can the digital form be customized by a chapter? At this time, we are mimicking the DL forms, but we hope to expand the reach of these digital forms so that chapters can use them as they see fit.
 - a. DL Diversity & Outreach (**Attachment E**)
 - i. Members: John Constantinide (Chair), Mohammad Al Tassi, Abby Brophy, Mahroo Eftekhari, Heric Holmes, Janice Peterson, Andy Reilman, Daniel Robert, Liz Zakej
 - b. Promoting Award Nominations and Technology Awards (**Attachment M**)
 - i. Members: Chris Adams (Chair), Mahroo Eftekhari, Daniel Redmond, Frank Rivera, Daniel Robert, Liz Zakej
 - ii. This subcommittee will wordsmith update #5 in Attachment M and present tomorrow for a vote. We want to make sure that we are giving RVCs the ability to elevate submissions that are worthy of a Society review.
 - iii. We will look at creating a new ad hoc to review the need for requiring a year’s worth of energy usage for Technology Award submissions.
11. **Subcommittee Reports**
 - a. Member Services – Robert (**Attachment F**)
 - i. As of today, the total number of DL visits for 21-22 is 304 (59 of which were allocated visits).
 - b. Operations – Reilman (**Attachment G**)
 - i. Planning on recording a Tech Hour in July.
 - ii. **Action Item #2:** Look at the logistical feasibility of recording multiple Tech Hours at ASHRAE HQ during the 2023 Winter Conference in Atlanta.
 - iii. **Action Item #3:** Daniel Redmond to review program idea slides
 - iv. MOP updates:
 1. **Motion #2:** That the Chapter Technology Transfer Committee (CTTC) Manual of Operating Procedures (MOP) be updated as follows, effective immediately:
 - o Section 11.1, ASHRAE Distinguished Lecturers Program
 - Nomination form, biography/resume, and written outline/abstract of proposed presentations (s) must be received by the Society no later than December 1 of each year. The CTT

Committee will review all nominations at the Winter Meeting. Accepted nomination terms will begin upon acceptance by the nominated speaker. The term of initial appointment is two years. The option to renew appointments in two-year increments is at the discretion of the Distinguished Lecturer ~~Program Committee Working Group~~ and acceptance of the Distinguished Lecturer.

- a. Background: Update to reflect the official name change of the group of CTT members that oversee the DL Program.
- b. Fiscal Impact: None
- c. Vote: 16-0-0 CNV

v. Resource Manual updates:

1. **Motion #3:** That the Chapter Technology Transfer Committee (CTTC)

Resource Manual be updated as follows, effective immediately:

- o Appendix K: ASHRAE Distinguished Lecturers Program – Lecturer Nomination Instructions and Form
 - Included updated form that was approved by CTTC
 - o Appendix L: Instructions to Host Chapter Technology Transfer Chair (HCTTC)
 - Update DL allocation for 22-23 SY
 - o Addition of Distinguished Lecturers Conduct Guidance document
 - Will be added as Appendix T
 - o Appendix T: ASHRAE Technology Awards
 - Judging: A minimum of seven judges will be selected, utilizing the region rotation schedule provided in the CTT Resource Manual. At least one judge will be selected by the CTT Committee Chair and ~~two~~ one judges ~~are to~~ will be provided by Technology Council. ~~It is suggested that the CTT judge mentioned above serve as the Technology Awards subcommittee chairperson for the following year.~~
 - ASHRAE Technology Awards Judges Selection Guidelines:
 - 4: At least one judge should be from outside North America. ~~See triple asterisk*** years on the rotation schedule chart, when this position may need to be a recommendation from Tech Council or the CTT Chair~~
 - 6: ~~At least three and no~~ No more than ~~four~~ five judges should be selected from the previous year's list of judges. No judge should serve for more than three years.
 - Rotating Schedule for Technology Awards Program Judges
 - ~~*** At least one Judge should be from outside North America~~
- a. Background: Housekeeping updates
 - b. Fiscal Impact: None
 - c. Vote: 16-0-0 CNV

12. **Liaison Talking Points** – Al Tassi (**Attachment I**)

- a. John and Heric will attend the TC Chair breakfast

Full Committee Agenda – Saturday, June 25 – 8:00am-12:00pm

1. **Call to Order** – Al Tassi
2. **Roll Call/Introduction of Guests** – Al Tassi
3. **ASHRAE Code of Ethics Commitment** – Al Tassi
In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest. (See full Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>)
4. **ASHRAE Diversity Statement**
5. **Review of Agenda** – Al Tassi
6. **Special Reports**
 - a. Sarah Maston – Technology Council
 - b. Dan Russell – Membership Promotion
7. **Ad Hoc Update**
 - a. Promoting Award Nominations and Technology Awards (**Attachment M**)
 - i. **Motion #4:** Approve updates to Technology Award submission form. Vote: 16-0-0 CNV
8. **Review of Regional Statistics** – Al Tassi (**Attachment H**)
 - a. **Action Item #4:** Start tracking in-person vs. virtual attendance for hybrid CRC meetings
 - b. DL Info:
 - i. **Action Item #5:** Review the DL statistics reported and necessary DL forms. Start tracking in-person vs. virtual DL presentations, including non-allocated visits. Find out if DL visits benefit other grassroots efforts.
9. **Status of 2021-22 MBOs** – Al Tassi (**Attachment J**)
10. **New Business** – Al Tassi
 - a. **Action Item #6:** Clarify the time zone on the DL invitation
11. **Change of Chair** – Al Tassi/Robert
 - a. Recognition of outgoing members
 - i. Mohammad Al Tassi – Chair
 - ii. Daniel Redmond – Region II RVC
 - iii. Jerry Huang – Region XIII RVC
 - iv. Ahmad Nour – RAL RVC
 - v. Ashish Rakheja – BOD Ex-Officio
 - b. Recognition of incoming members:
 - i. Andy Reilman – 1st Vice Chair
 - ii. Daniel Redmond – 2nd Vice Chair
 - iii. Wei Sun – Board ExO
 - iv. RVCs
 1. Abhi Khurana – Region II
 2. Sivakumar Gadam – Region XIII
 3. Osama Atef Khayata – RAL
 - c. 2022-23 MBOs – Robert (**Attachment K**)
 - d. Appointment of 2022-23 Subcommittees and Mentors – Robert (**Attachment L**)
 - i. Technology Award Judging Panel
 1. Confirm Charles Bertuch as Chair and who will serve as the Region I judge
 - ii. TC Liaisons
 1. **Action Item #7:** John to confirm with TAC future breakfast plans and communication
12. **Next Meeting** – 2023 ASHRAE Winter Conference
13. **New Member Orientation**
 - a. **Action Item #8:** Prepare plan for updated new member orientation. Look at hosting it prior to the conference meetings so the new members come in prepared. Be sure to distribute the PowerPoint to new members before the orientation.
14. **Adjournment**

ASHRAE Simplified Rules of Order – Quick Reference

Guiding Principles:

- Quorum is required before business can be conducted.
- Everyone has the right to participate in discussion if they wish before anyone may speak a second time.
- Everyone has the right to know what is going on at all times. Only urgent matters may interrupt a speaker.
- Only one thing (motion) can be discussed at a time.

A **motion** is the topic under discussion (e.g., “I move that we add a coffee break to this meeting”). After being recognized by the president of the board, any member can introduce a motion when no other motion is on the table. A motion requires a second to be considered. If there is no second, the matter is not considered. Each motion must be disposed of (passed, defeated, tabled, referred to committee, or postponed indefinitely).

How to do things:

You want to bring up a new idea before the group.

After recognition by the president of the board, present your motion. A second is required for the motion to go to the floor for discussion, or consideration.

You want to change some of the wording in a motion under discussion.

After recognition by the president of the board, move to amend by

- adding words,
- striking words or
- striking and inserting words.

You like the idea of a motion being discussed, but you need to reword it beyond simple word changes.

Move to substitute your motion for the original motion. If it is seconded, discussion will continue on both motions and eventually the body will vote on which motion they prefer.

You want more study and/or investigation given to the idea being discussed.

Move to refer to a committee. Try to be specific as to the charge to the committee.

You want more time personally to study the proposal being discussed.

Move to postpone to a definite time or date.

You are tired of the current discussion.

Move to limit debate to a set period of time or to a set number of speakers. Requires a 2/3rds vote.

You have heard enough discussion.

Move to close the debate. Also referred to as calling the question. This cuts off discussion and brings the assembly to a vote on the pending question only. Requires a 2/3rds vote.

You want to postpone a motion until some later time.

Move to table the motion. The motion may be taken from the table after 1 item of business has been conducted. If the motion is not taken from the table by the end of the next meeting, it is dead. To kill a motion at the time it is tabled requires a 2/3rds vote. A majority is required to table a motion without killing it.

You believe the discussion has drifted away from the agenda and want to bring it back.

“Call for orders of the day.”

You want to take a short break.

Move to recess for a set period of time.

You want to end the meeting.

Move to adjourn.

ASHRAE Simplified Rules of Order – Quick Reference

You are unsure the president of the board announced the results of a vote correctly. Without being recognized, call for a "division of the house." A roll call vote will then be taken.

You are confused about a procedure being used and want clarification. Without recognition, call for "Point of Information" or "Point of Parliamentary Inquiry." The president of the board will ask you to state your question and will attempt to clarify the situation.

You have changed your mind about something that was voted on earlier in the meeting for which you were on the winning side.

Move to reconsider. If the majority agrees, the motion comes back on the floor as though the vote had not occurred.

You want to change an action voted on at an earlier meeting.

Move to rescind. If previous written notice is given, a simple majority is required. If no notice is given, a 2/3^{rds} vote is required.

Executive Session.

Discussion of an issue of sensitive, proprietary or personal in nature.

Unanimous Consent:

If a matter is considered relatively minor or opposition is not expected, a call for unanimous consent may be requested. If the request is made by others, the president of the board will repeat the request and then pause for objections. If none are heard, the motion passes.

- **You may INTERRUPT a speaker for these reasons only:**
 - to get information about business –point of information to get information about rules– parliamentary inquiry
 - if you can't hear, safety reasons, comfort, etc. –question of privilege
 - if you see a breach of the rules –point of order
 - if you disagree with the president of the board's ruling –appeal
 - if you disagree with a call for Unanimous Consent –object

| Order of Precedence of Motions | | | | | |
|---|------------------|---------------------|----------------|-----------------------------|----------------------------------|
| The rules are in descending order of importance. A rule higher in the table takes precedence over one lower in the table. Implication is that everything takes precedence over the main motion on the floor. | | | | | |
| Rule | Must Be Seconded | Open for Discussion | Can be Amended | Vote Count Required to Pass | May Be Reconsidered or Rescinded |
| Adjourn (End meeting) | X | | | Majority | |
| Recess | X | | X | Majority | |
| Table | X | | | Majority | |
| Close Discussion | X | | | 2/3 rds | X |
| Limit Debate | X | | X | 2/3 rds | X |
| Postpone to a later time (##) | X | X | X | Majority | X |
| Refer to Committee | X | X (+) | X | Majority | X |
| Kill a Motion | X | | | Majority | X |
| Amend Motion (* #) | X | X | | Majority | X |
| Postpone Indefinitely (**) | X | X | X | Majority | X |
| Main Motion | X | X | X | Majority | X |

(#, ##, *, **,+) See full Rules of Order for explanation of symbols



Chapter Technology Transfer Committee (CTTC)

Friday, January 28, 2022

Full Committee – 8am-12pm – Hybrid In-Person and Webex – Page 1

Saturday, January 29, 2022

Full Committee – 8am-12pm – Hybrid In-Person and Webex – Page 2

Action Items

| No. – Pg. | Assignment | Action |
|------------------|-------------------------|--|
| 1 – 1 | DL Ad Hoc | Request DLs to update profiles on an annual basis |
| 2 – 1 | Staff | Consult with Marketing about sending an all-member email to promote DL nominations |
| 3 – 1 | DL Ad Hoc | Include PPT subtitle information with May DL training |
| 4 – 1 | Constantinide | Contact Larry Smith/TAC regarding topics/speakers for Tech Hour |
| 5 – 2 | Operations Subcommittee | Write a Chapter Notes article about eLearning and include information about the 50% discount |
| 6 – 2 | Operations Subcommittee | Further develop the idea of providing information slides for chapters and next steps |
| 7 – 3 | Staff | Send another reminder for RVCs to send in numbers for Regional Statistics Spreadsheet |
| 8 – 3 | DL Ad Hoc | Email DLs to gauge interest in serving as Tech Hour speaker |
| 9 – 3 | Staff | Contact TAC/Larry Smith to inquire about having the TAC video added onto YouTube |
| 10 – 3 | RVCs | Submit Regional data to staff regarding MBOs #1 and #2 |
| 11 – 3 | Staff | Send RVCs instructions on how to pull CIQ report |

Minutes – Friday, January 28, 2022

1. **Call to Order** – Al Tassi
2. **Roll Call/Introduction of Guests** – Al Tassi
3. **ASHRAE Code of Ethics Commitment** – Al Tassi
In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest. (Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>, Core Values: <https://www.ashrae.org/about/ashrae-s-core-values>)
4. **ASHRAE Commitment to Care** – Al Tassi
The health and safety of all ASHRAE conference attendees is a top priority. Out of respect for our fellow attendees, we commit to wear masks indoors, monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols. We are committed to the well-being of one another. (View the full Commitment to Care at www.ashrae.org/2022WinterCTC)
5. **Review of Agenda** – Al Tassi
6. **Remarks**
 - a. BOD Ex-Officio – Rakheja
7. **Approval of Minutes** – June 9 & 16, 2021 Meetings – Al Tassi (**Attachment A**)
 - a. Al Tassi moves, Redmond seconds. Motion passes with unanimous approval.

8. Review of Action Items – Al Tassi (**Attachment B**)

- a. New Action Items:
 - i. **Action Item #1:** DL Ad Hoc to request DLs to update profiles on an annual basis
 - ii. **Action Item #2:** Staff to consult with Marketing to find out about sending an email to all ASHRAE members promoting DL nominations
 - iii. **Action Item #3:** DL Ad Hoc to include PPT subtitle information to May training as a best practice
 - iv. **Action Item #4:** John to reach out to Larry Smith/TAC about topics/speakers for Tech Hour

9. Special Reports

- a. REF-CPCC – Charles Hon, REF-CPCC Member (**Attachment J**)
 - i. Charles to research potential refrigeration speakers for Tech Hour and potential DLs
- b. eLearning – Eunice Njeru, Manager of eLearning (**Attachment I**)
 - i. **Action Item #5:** Operations Subcommittee to write a Chapter Note article about eLearning and include information about the 50% discount
- c. Certification – Grant Page, Certificate Committee Member (**Attachment L**)
- d. Training and Education Committee – Keith Reihl, TEC Chair
 - i. Can CTTC include a TEC message in slides shown for chapter presentations?
 - ii. Keith may send information that can be included as a Chapter Notes article
- e. Sarah Maston – Tech Council
- f. Thursten Simonson – Communications Committee (**Attachment M**)

10. Subcommittee Reports

- a. Member Services – Robert (**Attachment C**)
 - i. DL Automation Ad Hoc:
 1. Members: Daniel Redmond (Chair), John, Grant
 2. Any automation should follow the existing data flow that we follow
 3. Add a testing/beta note with the QR code on the DL page. The Ad Hoc can determine what additional language may be needed.
 4. Staff is working with IT on how to distribute the online DL forms to the appropriate chapter/regional leadership
 5. Ahmad volunteered to join the Ad Hoc
 - ii. DL Diversity & Outreach Ad Hoc:
 1. Members: John (Chair), Janice, Abby, Heric, Liz, Mahroo, Mohammad, Daniel Robert, Andy
 2. Developed the new DL Evaluation Form
 - iii. DL Online Chapter Programs Ad Hoc:
 1. Members: John (Chair), Heric, Grant
 2. Should CTTC provide chapters with slides that review topics of interest that can be included with their intro slides used at chapter meetings?
 - a. It could also be a short video or script
 - b. Each topic should only be 2-3 slides
 - c. Will need to be updated on an annual basis
 - d. **Action Item #6:** Operations Subcommittee to further develop this idea and next steps
 - e. Start as an action item for the Operations Subcommittee, then look at implementing as an MBO for next year
 3. This ad hoc has fulfilled its mission and can be closed. Any outstanding action items should be reassigned elsewhere.
 4. Incorporate the new ASHRAE Virtual Meeting Guidance document into the CTTC CRC Workshop Presentation and resource materials. The updates below have been recommended by the Online Chapter Programs Ad Hoc.
 - a. Add bullet item to the CTTC CRC Workshop PPT (**Attachment K**)

- b. Add a link to the guidance document on the [CTTC Program Resources Page](#)
 - iv. Promoting Award Nominations Ad Hoc And Technology Award Ad Hoc
 - 1. Members: Chris (Chair), Mahroo, Liz, Daniel Redmond, Daniel Robert
 - 2. Need a better marketing program, simplify, and promote to the grassroots
 - 3. A proposed single Tech Award form will be reviewed by CTTC
 - 4. Final report presented to CTTC at Annual Conference
 - 5. Frank will join this ad hoc
- 11. **Review of Regional Statistics – Al Tassi (Attachment E)**
 - a. *Action Item #7*: Rhiannon to send another reminder for stats from RVCs

Full Committee Minutes – Saturday, January 29

1. **RVC Updates**
 - a. Any relevant updates from each RVC – one minute max
2. **Subcommittee Report**
 - a. Operations – Reilman (**Attachment D**)
 - i. **Action Item #8:** DL Ad Hoc to email DLs to gauge Tech Hour speaker interest
 - ii. **Action Item #9:** Staff to reach out to TAC/Larry Smith to inquire about having the TAC video added onto YouTube.
 - iii. PAOE
 1. Addition of two new line items under the CTTC category:
 - a. For each chapter meeting presenting a Diversity, Equity and Inclusion (DEI) program. 100 points; 600 points maximum. Include under the “Meetings, Presentations or Events” section under CTTC’s PAOE points.
 - b. For Chapters with at least one Member that serves as a Distinguished Lecturer during the current Society year. Additional 100 points for Chapters outside of the United States that have at least one Member that serves as Distinguished Lecturer. For Chapters with at least one member that serves as a Distinguished Lecturer during the current Society Year. 50 points; 150 points maximum. Include under the “Meetings, Presentations or Events” section.
3. **Liaison Talking Points – (Attachment F)**
4. **Members Council Referrals**
 - a. Colombia Chapter – Motion 22 (11/4/2021): That the Society includes within the members Bio information data of Distinguished Lecturers’ reported years as DL through the ASHRAE DL program, beginning July 1, 2022. (**Attachment G**)
 - i. Vote: 1-12-1 CNV
 - ii. Reasoning: DLs can manually add their DL dates of service into their member bio. We also believe that the funds required to make this programming update could be better used elsewhere.
5. **Status of 2021-22 MBOs – Al Tassi (Attachment H)**
 - a. **Action Item #10:** RVCs to submit their Regional data to staff regarding MBOs #1 and #2
 - b. **Action Item #11:** Staff to send RVCs instructions on how to pull CIQ report
6. **Next Meeting – June 2022**
7. **Review of New DL Roster – Executive Session**
8. **Adjournment**

Action Items from 2022 Winter Conference (Las Vegas)

| No. – Pg. | Assignment | Status | Action |
|-----------|-------------------------|-------------|--|
| 1 – 1 | DL Ad Hoc | Complete | Request DLs to update profiles on an annual basis |
| 2 – 1 | Staff | Complete | Consult with Marketing about sending an all-member email to promote DL nominations |
| 3 – 1 | DL Ad Hoc | Complete | Include PPT subtitle information with May DL training |
| 4 – 1 | Constantinide | Complete | Contact Larry Smith/TAC regarding topics/speakers for Tech Hour |
| 5 – 2 | Operations Subcommittee | In progress | Write a Chapter Notes article about eLearning and include information about the 50% discount |
| 6 – 2 | Operations Subcommittee | In progress | Further develop the idea of providing information slides for chapters and next steps |
| 7 – 3 | Staff | Complete | Send another reminder for RVCs to send in numbers for Regional Statistics Spreadsheet |
| 8 – 3 | DL Ad Hoc | Complete | Email DLs to gauge interest in serving as Tech Hour speaker |
| 9 – 3 | Staff | Complete | Contact TAC/Larry Smith to inquire about having the TAC video added onto YouTube |
| 10 – 3 | RVCs | Complete | Submit Regional data to staff regarding MBOs #1 and #2 |
| 11 – 3 | Staff | Complete | Send RVCs instructions on how to pull CIQ report |

DL Automation Ad Hoc

Dan Redmond, Grant Page, John Constantinide

1. Action - DL Evaluation Tool
 - a. Background
 - i. QR code for evaluation is on website (and is in beta testing)
 - ii. Version 1 sent all submissions to one email
 - iii. Society staff working to change to be able to send to multiple email addresses – is in testing and will likely have response ready for
 - b. MBOs moving forward (I would recommend summarizing the red text below into a chart but I have added additional comments to provide more info)
 - i. **Summer Meeting**
 1. **Action - Review testing of multiple email distribution at summer meeting**
 - a. If data is emailed, who compiles the information
 - b. Chapter chairs should bear this responsibility however is there an ability to also have CTTC have access to the data?
 - ii. **Fall 2022 - Have chapters test (Fall 2022)**
 1. **Action – have chapters test**
 - a. Testing email recipients – how to direct submissions
 - b. Receipt of data and ability of chapter chairs to compile and report in
 - c. Ability to use for just DL program or more broadly for all programs
 - iii. **Winter Meeting 2023** – pending successful testing put into full use, no longer in beta testing
 1. **Action – communication with all that new system is live**
 2. Action -Connect with Online Chapter Programs Ad Hoc
 - a. Background
 - i. Idea is to investigate how to incorporate more DL awareness/connection/surveys into ASHRAE 365
 - ii. Benefit is getting more use of ASHRAE 365 and also having ability for members to rate/review etc similar to how users use ASHRAE 365 at the winter and summer meetings
 - iii. Thought was to connect with OCP to help build this, but OCP is closing
 1. Summary of results from John: Virtual meeting guidance document was amended greatly based on the recommendations of OCP – this way did not have to create a duplicate document per Joyce’s recommendations
 - b. MBOs moving forward
 - i. **Fall 2022 – ASHRAE 365 Investigation**
 1. Need to meet with staff to better understand what ASHRAE 365 could or could not include
 2. Need to decide what DL information will best be served by adding to ASHRAE 365
 3. This MBO is really open ended as it is pending investigation and research

Final Report of DL Diversity & Outreach Ad Hoc

The DL Diversity & Outreach Ad Hoc has been formed to address the following items per the 2021 Annual Meeting minutes raising the issue of the lack of DL diversity.

1. An ASHRAE member pointed out how few DLs are female (69 DLs total, 8 female = 11.6% female).
2. Proactive Diversity Task Force recommends that the following be reviewed in regards to the DL program:
 1. Are there diverse candidates applying for DL positions?
 2. What are the criteria to be successfully appointed as a DL?
3. Are those criteria biased in any way to prevent diversity (superficially, it appears to be possible)?
4. If there is a reasonably diverse pool of applicants, and if so, what is preventing them from being successfully appointed?
5. Are the DL evaluators being unconsciously biased in appointing like-minded or congruent individuals?
6. Is our membership makeup such that there are insufficient diverse candidates statistically eligible to succeed in DL application (for example, are there just not enough engineering professors that are female and non-Caucasian to form a reasonable candidate pool)?
7. Are the DL appointment criteria too restrictive to allow for diversity?

MBO #7, "Review the current DL selection criteria, and existing DL database, then initiate proper measures for providing wider DL diversity of relevant topics (leadership, management, finance...), languages, gender (more female DLs), and even age groups (opportunities for YEA)," established the mandate for the Ad Hoc.

After evaluating DL and presentation topic selection criteria and bias while still maintaining professional rigor and relevance of the DL program, the resulting products are as follows.

1. **ASHRAE DL Evaluation Sheet:** This spreadsheet will evaluate all DLs annually, assess age and gender of DLs, and provide scoring of criteria related to topics, international reach, international presentation experience, strength of nominator and sponsors, ASHRAE conference presentation experience, and presentation experience to Chapters and Student Branches. The evaluation sheet will automatically rank DLs, should the DL Working Group agree on capping the number of DLs in the program during a Society Year.
2. **DL Evaluation Rules and Guidance:** This table, as a tab on the DL Evaluation Sheet, provides rules and guidance for the DL Working Group to properly grade DLs. The rules and guidance that excludes recommendations to the DL Working Group have also been added to the Instructions for Distinguished Lecturer Nomination Form.
3. **DL Information Sessions:** As a way to increase awareness of the DL nomination process, DL Information Sessions are offered to inform prospective nominees of what the DL program is, what the expectations of a DL are, and how to become a DL.

The following suggestions are made by the Ad Hoc:

1. **DL Recruitment Outreach:** CTTC should create an annual strategy to be repeated annually that identifies prospective DLs through regional speakers lists, maintained by CTT RVCs, and educating industry experts on the DL program. The Ad Hoc also recommends that the DL

Working Group establish annually a soft goal of encouraging a certain number of nominations based on the number of 2021 nominees. This number of nominations would be based on CTT RVCs conducting two actions:

1. Interact with their own respective region on nominating qualified candidates to the DL Program
2. Reach out and interact with Technical Activities Committee (TAC) sections
2. **Diversity Exposure to CTTC:** Have a DL present a diversity topic to CTTC in the Winter or Annual Conference.
3. **DL Program Explanatory Recording:** Create a recorded presentation, in the style of the Tech Hour, explaining what the DL Program is that may be available on the DL webpage. Use DL Program funding for creating this recording.
4. **Encourage DiA Topics in Presidential Initiatives:** CTTC should encourage DL presentations on DiA topics by sending feedback to Members Council and the President-Elect Advisory Committee to add DiA topics to the Presidential Initiatives list.
5. **DL Evaluation Process of Large Number of DL Nominees:** If the nominee pool is large and the DL Working Group needs to split up the evaluation across Ad Hoc members, ensure that smaller nominee pools for each evaluator is diverse to prevent bias (e.g., prevent DLs of same race, gender, or geographic location(s) in one group).

Respectfully submitted,
John Constantinide

CTTC Member Services Subcommittee – Annual Conference Call

Tuesday, May 24, 2022, from 12:00-1:00pm Eastern

Attendees:

Daniel Robert – Chair, Christopher Adams, Abigail Brophy, John Constantinide, Mahroo Eftekhari, Grant Page, Thiago Corrêa Fonseca Portes, Daniel Redmond, Anastasia Meadows, Rhiannon Masterson

Subcommittee Members unable to attend: Ahmad Nour, Janice Peterson

Action Items from 2022 ASHRAE Winter Conference:

| No. – Pg. | Assignment | Status | Action |
|-----------|---------------|------------|--|
| 1 – 1 | DL Ad Hoc | Complete | Request DLs to update profiles on an annual basis |
| 2 – 1 | Staff | Complete | Consult with Marketing about sending an all-member email to promote DL nominations. Included in <i>Chapter Notes</i> . |
| 3 – 1 | DL Ad Hoc | Complete | Include PPT subtitle information with May DL training |
| 4 – 1 | Constantinide | Complete | Contact Larry Smith/TAC regarding topics/speakers for Tech Hour |
| 7 – 3 | Staff | Complete | Send another reminder for RVCs to send in numbers for Regional Statistics Spreadsheet |
| 8 – 3 | DL Ad Hoc | Complete | Email DLs to gauge interest in serving as Tech Hour speaker |
| 9 – 3 | Staff | Complete | Contact TAC/Larry Smith to inquire about having the TAC video added onto YouTube |
| 10 – 3 | RVCs | In process | Submit Regional data to staff regarding MBOs #1 and #2. Will have final data to present at Annual Conference. |
| 11 – 3 | Staff | Complete | Send RVCs instructions on how to pull CIQ report |

Action Items assigned during this meeting:

| No. – Pg. | Assignment | Status | Action |
|-----------|------------------------|--------|---|
| 1 – 2 | Staff | | Email DLs toward the end of the Society Year to confirm their allocated and non-allocated visits. |
| 2 – 3 | Eftekhari, Page, Adams | | Have the Donald A. Siller Refrigeration Award Working Group look at adjusting or eliminating the point minimum. |

Agenda:

1. Review of MBOs assigned to subcommittee:
 - a. MBO #5: Finalize the online DL evaluation system and enroll it at least for interested chapters.
 - b. MBO #6: Work towards reaching online DL platform that covers DL requests, approval and logging capabilities. (Target: finalize a reliable robust plan for implementation at a later stage.)
 - c. MBO #7: Review the current DL selection criteria and existing DL database, then initiate proper measures for providing wider DL diversity of relevant topics, languages, gender, and even age groups.
 - i. See item #3b below
 - d. MBO #8: Conduct at least two additional full subcommittee virtual meetings per year.
 - i. Complete
2. DL Program
 - a. 2021-22 DL visits as of 5/5/22:

| Region | Allocated & Pool | Non-Allocated | Total Visits |
|----------|------------------|---------------|--------------|
| I | 4 | 6 | 10 |

| | | | |
|---------------|-----------|------------|------------|
| II | 3 | 8 | 11 |
| III | 3 | 10 | 13 |
| IV | 3 | 2 | 5 |
| V | 5 | 6 | 11 |
| VI | 9 | 12 | 21 |
| VII | 8 | 5 | 13 |
| VIII | 6 | 12 | 18 |
| IX | 9 | 12 | 21 |
| X | 4 | 5 | 9 |
| XI | 5 | 11 | 16 |
| XII | 6 | 17 | 23 |
| XIII | 0 | 8 | 8 |
| XIV | 0 | 4 | 4 |
| RAL | 4 | 35 | 39 |
| Totals | 69 | 153 | 222 |

- a. **Action Item #1:** Staff to repeat the process of emailing DLs toward the end of the Society Year to confirm their allocated and non-allocated visits.
 - b. All 32 DLs set to renew for an additional 2-year term have confirmed renewal.
 - c. The 2022-23 roster has a total of 70 confirmed DLs.
 - d. The DL Ad Hoc committee has become the DL Working Group. Consider adding more members to the DL Working Group. As opposed to having multiple ad hocs for DL-related purposes, we could assign any items directly to the DL Working Group.
 - e. Looking to make additional updates to digital DL Participation Form and add to the ASHRAE 365 app. Based on testing as of late May, the updates are not working and ASHRAE IT is working on updates for additional testing.
 - f. TRAC asked DL Working Group to find DLs who can speak on decarbonization. John will work with TAC to find potential experts.
 - g. DL Program Conduct Guidance document approved by DL Working Group and ASHRAE staff. Will go to the Operations Subcommittee during their mid-year call and then the full CTTC during the Annual Conference meeting since it will be an addition to the CTTC Resource Manual. ([Attachment A](#))
3. Ad Hocs
- a. DL Automation Ad Hoc ([Attachment B](#))
 - i. Members: Daniel Redmond (Chair), John Constantinide, Ahmad Nour, Grant Page
 - ii. ASHRAE IT has updated the online form and is in the process of testing its capability to send to multiple recipients. Staff hopes to have testing results in time for the Annual Conference.
 - iii. If the form is not ready to go by the Annual Conference, Daniel Redmond will write up an MBO to include for the next Society Year.
 - b. DL Diversity & Outreach Ad Hoc ([Attachment C](#))
 - i. Members: John Constantinide (Chair), Mohammad Al Tassi, Abby Brophy, Mahroo Eftehkari, Heric Holmes, Janice Peterson, Andy Reilman, Daniel Robert, Liz Zakelj
 - ii. The DL nomination form was updated and approved by CTTC. This is an internal document that is not posted on the DL webpage or the Resource Manual.
 - iii. The updated DL Nomination Instructions Form has been approved by CTTC and will be updated on the DL webpage and CTTC Resource Manual.

- iv. This ad hoc has fulfilled its mission and any future items can be directed to the DL Working Group.
 - c. Promoting Award Nominations and Technology Awards Ad Hoc
 - i. Members: Chris Adams (Chair), Mahroo Eftekhari, Daniel Redmond, Frank Rivera, Daniel Robert, Liz Zakelj
 - ii. Chris is finalizing the updates for the Technology Awards submission form and will present at the Annual Conference meeting.
- 4. Technology Awards
 - a. Society-level deadline is September 1
 - b. Encourage your Regional-level winners to apply at the Society-level
- 5. CTTC Awards
 - a. Both the Dan Mills Chapter Programs Award and the Donald A. Siller Refrigeration Award have deadlines of September 30.
 - b. Should we consider removing the point minimum for the Donald A. Siller Refrigeration Award to encourage nominations? **Action Item #2** – Have the Donald A. Siller Refrigeration Award Working Group look at adjusting or eliminating the point minimum.

ASHRAE Distinguished Lecturer Program Distinguished Lecturer Conduct Guidance

As ambassadors to the Society, ASHRAE Distinguished Lecturers (DL) are expected to adhere to the ASHRAE Code of Ethics and in their presentations and meetings and when on DL business. Therefore, DLs must commit to act with honesty, fairness, courtesy, competence, inclusiveness, and respect for others, which exemplify ASHRAE's core values of excellence, commitment, integrity, collaboration, volunteerism, and diversity, and shall avoid all real or perceived conflicts of interests. Actions that violate the Code of Ethics and Commercialism Policy go against the well-being both of the members involved and the organization.

If a DL acts in a way that does not reflect ASHRAE's core values or shows a conflict of interest, including commercialism, information should be e-mailed to chapterprograms@ashrae.org. ASHRAE's Chapter Technology Transfer Committee's (CTTC) Distinguished Lecturer Working Group will review the information and engage the DL about not acting in such a way in the future.

Repeated actions that do not reflect ASHRAE's core values or show a conflict of interest will be addressed by the DL Working Group on a case-by-case basis. Repeated or serious DL misconduct may result in corrective actions including, but not limited to, automatic retirement from the DL Program.

ASHRAE DLs are exemplary volunteers in both sharing information and building connections amongst professionals in the HVAC&R and allied industries. These actions are the core of the Charter of ASHVE, ASHRAE's predecessor, and continue to grow the Society today.

ATTACHMENT B

DL Automation Ad Hoc Report

Dan Redmond, Grant Page, John Constantinide

1. Action - DL Evaluation Tool
 - a. Background
 - i. QR code for evaluation is on website (and is in beta testing)
 - ii. Version 1 sent all submissions to one email
 - iii. Society staff working to change to be able to send to multiple email addresses – is in testing and will likely have response ready for Annual Conference
 - b. MBOs moving forward (I would recommend summarizing the red text below into a chart but I have added additional comments to provide more info)
 - i. **Summer Meeting**
 1. **Action - Review testing of multiple email distribution at summer meeting**
 - a. If data is emailed, who compiles the information
 - b. Chapter chairs should bear this responsibility however is there an ability to also have CTTC have access to the data?
 - ii. **Fall 2022 - Have chapters test (Fall 2022)**
 1. **Action – have chapters test**
 - a. Testing email recipients – how to direct submissions
 - b. Receipt of data and ability of chapter chairs to compile and report in
 - c. Ability to use for just DL program or more broadly for all programs
 - iii. **Winter Meeting 2023** – pending successful testing put into full use, no longer in beta testing
 1. **Action – communication with all that new system is live**
 2. Action -Connect with Online Chapter Programs Ad Hoc
 - a. Background
 - i. Idea is to investigate how to incorporate more DL awareness/connection/surveys into ASHRAE 365
 - ii. Benefit is getting more use of ASHRAE 365 and also having ability for members to rate/review etc similar to how users use ASHRAE 365 at the winter and summer meetings
 - iii. Thought was to connect with OCP to help build this, but OCP is closing
 1. Summary of results from John: Virtual meeting guidance document was amended greatly based on the recommendations of OCP – this way did not have to create a duplicate document per Joyce’s recommendations
 - b. MBOs moving forward
 - i. **Fall 2022 – ASHRAE 365 Investigation**
 1. Need to meet with staff to better understand what ASHRAE 365 could or could not include
 2. Need to decide what DL information will best be served by adding to ASHRAE 365
 3. This MBO is open ended as it is pending investigation and research

Final Report of DL Diversity & Outreach Ad Hoc

The DL Diversity & Outreach Ad Hoc has been formed to address the following items per the 2021 Annual Meeting minutes raising the issue of the lack of DL diversity.

1. An ASHRAE member pointed out how few DLs are female (69 DLs total, 8 female = 11.6% female).
2. Proactive Diversity Task Force recommends that the following be reviewed in regards to the DL program:
 1. Are there diverse candidates applying for DL positions?
 2. What are the criteria to be successfully appointed as a DL?
3. Are those criteria biased in any way to prevent diversity (superficially, it appears to be possible)?
4. If there is a reasonably diverse pool of applicants, and if so, what is preventing them from being successfully appointed?
5. Are the DL evaluators being unconsciously biased in appointing like-minded or congruent individuals?
6. Is our membership makeup such that there are insufficient diverse candidates statistically eligible to succeed in DL application (for example, are there just not enough engineering professors that are female and non-Caucasian to form a reasonable candidate pool)?
7. Are the DL appointment criteria too restrictive to allow for diversity?

MBO #7, "Review the current DL selection criteria, and existing DL database, then initiate proper measures for providing wider DL diversity of relevant topics (leadership, management, finance...), languages, gender (more female DLs), and even age groups (opportunities for YEA)," established the mandate for the Ad Hoc.

After evaluating DL and presentation topic selection criteria and bias while still maintaining professional rigor and relevance of the DL program, the resulting products are as follows.

1. **ASHRAE DL Evaluation Sheet:** This spreadsheet will evaluate all DLs annually, assess age and gender of DLs, and provide scoring of criteria related to topics, international reach, international presentation experience, strength of nominator and sponsors, ASHRAE conference presentation experience, and presentation experience to Chapters and Student Branches. The evaluation sheet will automatically rank DLs, should the DL Working Group agree on capping the number of DLs in the program during a Society Year.
2. **DL Evaluation Rules and Guidance:** This table, as a tab on the DL Evaluation Sheet, provides rules and guidance for the DL Working Group to properly grade DLs. The rules and guidance that excludes recommendations to the DL Working Group have also been added to the Instructions for Distinguished Lecturer Nomination Form.
3. **DL Information Sessions:** As a way to increase awareness of the DL nomination process, DL Information Sessions are offered to inform prospective nominees of what the DL program is, what the expectations of a DL are, and how to become a DL.

The following suggestions are made by the Ad Hoc:

1. **DL Recruitment Outreach:** CTTC should create an annual strategy to be repeated annually that identifies prospective DLs through regional speakers lists, maintained by CTT RVCs, and educating industry experts on the DL program. The Ad Hoc also recommends that the DL Working Group establish annually a soft goal of encouraging a certain number of nominations based on the number of 2021 nominees. This number of nominations would be based on CTT RVCs conducting two actions:
 1. Interact with their own respective region on nominating qualified candidates to the DL Program
 2. Reach out and interact with Technical Activities Committee (TAC) sections
2. **Diversity Exposure to CTTC:** Have a DL present a diversity topic to CTTC in the Winter or Annual Conference.
3. **DL Program Explanatory Recording:** Create a recorded presentation, in the style of the Tech Hour, explaining what the DL Program is that may be available on the DL webpage. Use DL Program funding for creating this recording.
4. **Encourage DiA Topics in Presidential Initiatives:** CTTC should encourage DL presentations on DiA topics by sending feedback to Members Council and the President-Elect Advisory Committee to add DiA topics to the Presidential Initiatives list.
5. ~~**Create an ASHRAE Bio Update Reminder:** CTTC should request Membership Promotion (MP) Committee to create an ASHRAE Bio Update Reminder e-mail before each Annual Meeting (e.g., June 1 annually) to ASHRAE members, and permit members to opt-in. The DL Working Group should require each DL to opt in to this list as a requirement of being a DL.~~
6. **DL Evaluation Process of Large Number of DL Nominees:** If the nominee pool is large and the DL Working Group needs to split up the evaluation across Ad Hoc members, ensure that smaller nominee pools for each evaluator is diverse to prevent bias (e.g., prevent DLs of same race, gender, or geographic location(s) in one group).

Respectfully submitted,
John Constantinide

CTTC Operations Subcommittee – Annual Conference Call
 Wednesday, June 1 from 12:00-1:00pm Eastern

Attendees:

Andrew Reilman – Chair, Matt Archey, Tyler Bradshaw, Heric Holmes, Renjie Jerry Huang, Arunabha Sau, Kenneth Shifflett, Elizabeth Zakelj, Daniel Robert, Anastasia Meadows, Rhiannon Masterson

Subcommittee members unable to attend: Frank Rivera

Action Items from 2022 ASHRAE Winter Conference:

| No. – Pg. | Assignment | Status | Action |
|-----------|-------------------------|------------|---|
| 5 – 2 | Operations Subcommittee | In process | Write a Chapter Notes article about eLearning and include information about the 50% discount. <ul style="list-style-type: none"> • Rhiannon sent Liz the eLearning flyer • The current staff contact for eLearning is David Soltis (dsoltis@ashrae.org) |
| 6 – 2 | Operations Subcommittee | In process | Further develop the idea of providing information slides for chapters and next steps. (Should CTTC provide chapters with slides that review topics of interest that can be included with their intro slides used at chapter meetings?) <ul style="list-style-type: none"> • We will poll the full committee to see if what we offer fulfills this action item – Attachment A • Consider adding in an intro slide • Get feedback from full committee regarding having these slides separate and available to chapter chairs |
| 7 – 3 | Staff | Complete | Send another reminder for RVCs to send in numbers for Regional Statistics Spreadsheet |
| 10 – 3 | RVCs | In process | Submit Regional data to staff regarding MBOs #1 and #2 |
| 11 – 3 | Staff | In process | Send RVCs instructions on how to pull CIQ report <ul style="list-style-type: none"> • Rhiannon will email instructions and see if an existing instructional video exists. |

Action Items from Mid-Year Call:

| No. – Pg. | Assignment | Status | Action |
|-----------|---------------|--------|--|
| 2 – 1 | Constantinide | | Ask John to write an overview of updates made to DL program/forms to use in <i>Chapter Notes</i> |

Agenda:

1. MBO Updates
 - a. MBO #3: Resume the original plan for broadcasting three Tech Hours per year
 - b. MBO #4: Set a plan for further collaboration with TCs and other ASHRAE Committees
 - i. We have been in communication with TAC and have sent over a video. Hope to make additional progress in Toronto.
 - c. MBO #5: Conduct at least two additional full Sub-Committee virtual meetings per year (in addition to the Winter and Annual Meetings)
 - i. Complete
2. Tech Hour
 - a. Status update
 - i. We have one speaker/topic – Steve Kujak, flammable refrigerants topic

- ii. Hope to make additional progress at the Annual Conference and have three speakers lined up for early next SY
 - b. Potential topics/speakers that have been discussed:
 - i. Ashish Rakheja – NZEB, energy conservation, energy modeling
 - ii. Ayman Eltalouny (UNEP’s International Partnership Coordinator) – refrigeration, refrigerants
 - iii. Steve Kujak (Recommended by Charles Hon)
 - iv. Helen Walter-Terrinoni (Recommended by Charles Hon. VP of AHRI and head of the AHRI Low GWP Transition Task Force)
 - v. Charles Hon – legislation in other countries related to phaseout of high GWP and other specific refrigerants
 - vi. Decarbonization topic
 - vii. Three-part series on refrigeration:
 - 1. Refrigeration issues on a global scale (Eltalouny)
 - 2. Upcoming refrigeration issues in the commercial field (speakers suggested by Charles Hon)
 - 3. Refrigeration issues in the industrial/food chain field
- 3. Chapter Notes Newsletter
 - a. Look into writing a decarbonization article to coincide with TRAC’s request for DLs who specialize on this topic.
 - b. Will ask John Constantidine for an article overviewing the updates to the DL program.
 - c. Liz is going to write an article about eLearning and the available 50% discount.
- 4. MOP & Resource Manual Updates
 - a. Suggested updates to the MOP (need to be approved by Members Council)
 - i. Change ‘Distinguished Lecturer Program Committee’ to ‘Distinguished Lecturer Working Group’
 - ii. Motion to approve updates – **Attachment B**
 - 1. Moved by Liz, seconded by Matt. Passes unanimously. Vote: 7-0-0 CNV
 - b. Suggested updates to the Resource Manual (only need approval from CTTC)
 - i. Include updated and approved Distinguished Lecturers Program – Lecturer Nomination Instructions and Form
 - ii. Update DL allocations for 22-23 SY
 - iii. Include new Distinguished Lecturer Conduct Guidance document
 - iv. Edits to Technology Awards judging panel details
 - v. Motion to approve updates – **Attachment C**
 - 1. Moved by Liz, seconded by Tyler. Passes unanimously. Vote: 7-0-0 CNV
- 5. PAOE
 - a. Staff will send out PAOE updates by the end of May.
 - b. The deadline to enter PAOE points is July 15.
 - c. Andy provided feedback regarding a diversity item for next year’s PAOE.

Monthly Program Topics/Formats

1. Panel programs or forums
2. Technical tours/field trips
3. Technical/research talks
4. Student/Membership Promotion
5. CTTC Tech Hours
6. All day Chapter seminars
7. Co-sponsored conferences/seminars
8. National Engineers Week
9. Non-technical talk
10. Joint meetings - USGBC/AIA
11. Facilities management
12. Community service activities

1

Technical Talks

- ▶ ASHRAE energy efficiency standards
- ▶ Indoor air quality or environmental health
- ▶ Ventilation/fans/pumping systems
- ▶ Building moisture control
- ▶ Refrigeration design
- ▶ Life safety (liability/codes)
- ▶ BacNet/Communications Protocol
- ▶ Commissioning
- ▶ Building science topic other than HVAC&R
- ▶ Natural or low GWP refrigerants (Std. 15 & 34, future refrigerants, cold chain, etc.)
- ▶ GAC presentation
- ▶ Residential applications

2

Panel Forum

- ▶ Contractor, Engineer, Architect, Owner, Code Official, Developer
- ▶ May draw largest attendance
- ▶ Can be very entertaining and educational



3

Field Trips

- ▶ University research labs
- ▶ Industrial food or beverage processing plant
- ▶ Application installations
- ▶ Laboratories
- ▶ Plant tour
- ▶ Breweries
- ▶ Clean rooms
- ▶ Low temperature manufacturing facility
- ▶ Cold storage warehouse
- ▶ Modern supermarket



4

A photograph showing several men in business attire networking at an event. In the background, a large white ASHRAE logo is visible against a blue backdrop. The scene is overlaid with a green geometric pattern on the right side.

Seminars and Conferences

- ▶ One or two per year
- ▶ Valuable in promoting ASHRAE
- ▶ Technical seminars
- ▶ Co-sponsored conferences

5

A photograph of an audience seated at tables in a conference room, listening to a presentation. The room is filled with people, some looking towards the front. The image is overlaid with a green geometric pattern on the right side.

Research Talks

- ▶ ASHRAE Research (Research Administration Committee Members)
- ▶ University research
- ▶ Trade association research
- ▶ Private research

6

Joint Meetings

- ▶ Other nearby Chapters
- ▶ Other societies
 - ▶ Engineering
 - ▶ Technical
 - ▶ Architects
 - ▶ Construction
 - ▶ Contracting
 - ▶ Trade
 - ▶ CSMPs/SMPS

7

Young Members



- ▶ Meeting or technical program targeted to the interests of young members
- ▶ Young member breakfast, luncheon, sports day, picnic, etc.
- ▶ Career mentoring by senior Chapter members
- ▶ Professional development seminars
- ▶ Member of MP or YEA Committee to sit on CTT Committee

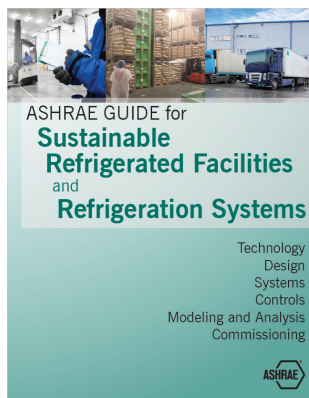
8

Non-Technical Talks

- ▶ Leadership skills
- ▶ Legal issues (owner, architect, engineer, contractor, manufacturer, sales agent)
 - ▶ Check with local Bar Association/Professional Liability Insurance firms for speakers
- ▶ Research and Membership Promotion nights
- ▶ Building manager/owner problems
- ▶ Business management, developing economies, legal education

9

Don't Forget the "R" in ASHRAE Refrigeration



- ▶ Assign a Refrigeration Chair
- ▶ Plan a Chapter refrigeration month
- ▶ Use the Society refrigeration speaker's list
- ▶ Plan technical tours of ice rinks, breweries, food processing plants
- ▶ Use Technical Committees (TC 10 - Refrigeration Systems) for programs topics and news
- ▶ Promote ASHRAE refrigeration awards

10

Updates to CTTC Manual of Operating Procedures (MOP)

Motion: That the Chapter Technology Transfer Committee (CTTC) Manual of Operating Procedures (MOP) be updated as follows, effective immediately:

- Section 11.1, ASHRAE Distinguished Lecturers Program
 - Nomination form, biography/resume, and written outline/abstract of proposed presentations (s) must be received by the Society no later than December 1 of each year. The CTT Committee will review all nominations at the Winter Meeting. Accepted nomination terms will begin upon acceptance by the nominated speaker. The term of initial appointment is two years. The option to renew appointments in two-year increments is at the discretion of the Distinguished Lecturer ~~Program Committee~~ Working Group and acceptance of the Distinguished Lecturer.

Background: Update to reflect the official name change of the group of CTTC members that oversee the DL program.

Fiscal Impact: None

Vote: 7-0-0 CNV

Updates to CTTC Resource Manual

Motion: That the Chapter Technology Transfer Committee (CTTC) Resource Manual be updated as follows, effective immediately:

- Appendix K: ASHRAE Distinguished Lecturers Program – Lecturer Nomination Instructions and Form
 - Included updated form that was approved by CTTC
- Appendix L: Instructions to Host Chapter Technology Transfer Chair (HCTTC)
 - Update DL allocation for 22-23 SY
- Addition of Distinguished Lecturers Conduct Guidance document
 - Will be added as Appendix T
- Appendix T: ASHRAE Technology Awards
 - Judging: A minimum of seven judges will be selected, utilizing the region rotation schedule provided in the CTT Resource Manual. At least one judge will be selected by the CTT Committee Chair and ~~two~~ one judges ~~are to~~ will be provided by Technology Council. ~~It is suggested that the CTT judge mentioned above serve as the Technology Awards subcommittee chairperson for the following year.~~
 - ASHRAE Technology Awards Judges Selection Guidelines:
 - 4: At least one judge should be from outside North America. ~~See triple asterisk*** years on the rotation schedule chart, when this position may need to be a recommendation from Tech Council or the CTT Chair~~
 - 6: ~~At least three and no~~ No more than four ~~five~~ judges should be selected from the previous year's list of judges. No judge should serve for more than three years.
 - Rotating Schedule for Technology Awards Program Judges
 - ~~*** At least one Judge should be from outside North America~~

Background: Housekeeping updates

Fiscal Impact: None

Vote: 7-0-0 CNV

Summary of CTTC Regional Statistics
2022 ASHRAE Annual Conference
 Updated 6/24/2022

| ACTIVITY | Reg. I | Reg. II | Reg. III | Reg. IV | Reg. V | Reg. VI | Reg. VII | Reg. VIII | Reg. IX | Reg. X | Reg. XI | Reg. XII | Reg. XIII | Reg. XIV | RAL | Society Average/Sum |
|--|--------|---------|----------|---------|--------|---------|----------|-----------|---------|--------|---------|----------|-----------|----------|------|---------------------|
| CRC (2021 calendar year) | | | | | | | | | | | | | | | | |
| Total number of chapters in region | 15 | 9 | 11 | 7 | 12 | 11 | 14 | 15 | 13 | 14 | 11 | 16 | 10 | 9 | 32 | 199 |
| Total number of sections in Region | 0 | 0 | 1 | 4 | 1 | 3 | 0 | 3 | 4 | 2 | 3 | 6 | 5 | 3 | 3 | 38 |
| Number of chapters present | 13 | 9 | 9 | 5 | 6 | 7 | 10 | 14 | 6 | 14 | 8 | 12 | 8 | 5 | 25 | 151 |
| Number of CTT chapter chairs or co-chairs | 6 | 9 | 8 | 3 | 6 | 6 | 6 | 6 | 5 | 9 | 8 | 10 | 8 | 5 | | 95 |
| Percentage of chapter participation | 87% | 100% | 82% | 71% | 50% | 64% | 71% | 93% | 46% | 100% | 73% | 75% | 80% | 56% | 78% | 75% |
| Percentage of CTT chapter chair participation | 40% | 100% | 73% | 43% | 50% | 55% | 43% | 40% | 38% | 64% | 73% | 63% | 80% | 56% | 0% | 54% |
| CRC Workshop Evaluation Summary Count | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 9 |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII | XIV | RAL | |
| PAOE | | | | | | | | | | | | | | | | |
| No. of Chapters Reporting PAOE Points: | | | | | | | | | | | | | | | | 0 |
| No. of Chapters Making Society Minimum (550): | | | | | | | | | | | | | | | | 0 |
| No. of Chapters Making Society PAR (1050): | | | | | | | | | | | | | | | | 0 |
| No. of planning sessions held | | | | | | | | | | | | | | | | 0 |
| No. of Chapters Reporting TC Presentations | | | | | | | | | | | | | | | | 0 |
| Highest PAOE Points by a Chapter: | | | | | | | | | | | | | | | | #DIV/0! |
| Percentage of chapters reporting | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.0% |
| Percentage of chapters making Society Minimum | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.0% |
| Percentage of chapters making Society PAR | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0.0% |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII | XIV | RAL | |
| DISTINGUISHED LECTURERS | | | | | | | | | | | | | | | | |
| Number of Allocations | 15 | 9 | 11 | 7 | 12 | 11 | 14 | 15 | 13 | 14 | 11 | 16 | 10 | 9 | 25 | 192 |
| Number of allocations used | 3 | 3 | 3 | 3 | 4 | 9 | 7 | 2 | 9 | 4 | 5 | 4 | 0 | 0 | 3 | 59 |
| Number of common pool visits used | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 14 |
| Number of Multi-Chapter visits | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 2 | 1 | 10 |
| Number of chapters hosting (inc. pool/multi) | 15 | 9 | 11 | 7 | 12 | 11 | 14 | 15 | 13 | 14 | 11 | 16 | 10 | 9 | 32 | 199 |
| Percentage of chapters hosting | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 98.50% |
| Percentage of used allocations | 20% | 33% | 27% | 43% | 33% | 82% | 50% | 13% | 69% | 29% | 45% | 25% | 0% | 0% | 12% | 32.1% |
| Total percentage of use: | 20% | 33% | 45% | 71% | 42% | 91% | 50% | 40% | 85% | 29% | 45% | 38% | 0% | 0% | 12% | 38% |
| Number of non-allocated visits | 8 | 13 | 16 | 7 | 7 | 17 | 9 | 16 | 23 | 11 | 15 | 23 | 10 | 7 | 49 | 231 |
| Total number of DL visits | 11 | 16 | 21 | 12 | 12 | 27 | 16 | 22 | 34 | 15 | 20 | 29 | 10 | 7 | 52 | 304 |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII | XIV | RAL | |
| CHAPTER VISITS | | | | | | | | | | | | | | | | |
| No. of chapters visited: | 6 | 1 | 6 | 6 | 1 | 3 | 0 | 1 | 8 | 3 | 0 | 0 | 1 | 2 | 2 | 40 |
| Percentage of chapters visited: | 40% | 11% | 55% | 86% | 8% | 27% | 0% | 7% | 62% | 21% | 0% | 0% | 10% | 22% | 6% | 24% |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII | XIV | RAL | |
| LIAISON CONTACTS | | | | | | | | | | | | | | | | |
| No. of contacts made: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII | XIII | XIV | RAL | |
| CTTC AWARDS (Fall 2021) | | | | | | | | | | | | | | | | |
| Dan Mills Chapter Programs Award | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| Donald A. Siller REF Award | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Technology Awards: Number of Regional Chapters | 1 | 8 | 4 | 3 | 4 | 24 | 5 | 3 | 0 | 6 | 9 | 3 | 4 | 0 | 0 | 74 |
| Technology Awards: Number of Society Chapters | 1 | 7 | 2 | 0 | 1 | 8 | 4 | 0 | 0 | 4 | 1 | 3 | 5 | 0 | 0 | 36 |

20-21
206
0
0
0
192
98.50%
0
0
280
280

ASHRAE CTTC SCRIPT FOR LIAISON INTRODUCTION

Sample script that a CTTC RVC can use to introduce CTTC to one of the Technical Committees, whether during the Sunday morning TC Chair meeting or one of the subcommittees. Each RVC should feel free to customize as they see fit.

Hello, I am the CTTC Liaison for your committee. Before I give you an update on our activities, I would like to ask a quick question. Aside from DLs in this room, how many of you are aware of what the CTTC Committee's activities are? *(Most likely very few are)*

In the Chapter Technology Transfer Committee, or CTTC, we are responsible for enhancing the communication on technical issues between the chapters and Society. We do this through multiple programs that ASHRAE offers.

To enhance the flow of information from Society to chapters, CTTC focuses on three programs: the Distinguished Lecturer, or DL, program, Tech Hour, and the training of chapter-level CTTC Chairs. The DL program offers quality, recognized speakers for the chapters for a low cost. Tech Hours, the successor of the annual Webcast, provide 1-hour technical discussions that can be used for Chapter seminars and Professional Development Hours. Finally, chapter-level CTTC Chair training ensures that chapters are providing quality programs for local ASHRAE memberships.

To facilitate the flow of technical information from chapters to Society, CTTC also has three programs. The first is the Technology Awards, which recognizes excellent projects that our members have been involved in. Additionally, we promote Technical Committee membership to Chapter members. Lastly, we encourage Chapter members to collaborate on handbook chapter reviews.

I very much appreciate your time, as you have a lot on your plate this morning. I am available for questions if you have any now. Here is also my e-mail in case questions come to mind later. *(Hand out your e-mail address)*

CTTC LIAISON TALKING POINTS

- 2020-21 Tech Hours –
 - Tech Hours were implemented last year in place of the annual Webcast and they provide a 1-hour technical discussion that can be used for PDHs (which are available the first 30 days after a Tech Hour goes live).
 - We plan on releasing two new Tech Hours in the coming months:
 - Commissioning
 - ASHRAE Building EQ
 - The two Tech Hours from 2019-20 are still available online:
 - “Optimize Occupant Health, Building Energy Performance and Revenue through Indoor-Air Hydration” by Stephanie Taylor
 - “Where Have all the Ethics Gone?” by Richard Rooley
 - www.ashrae.org/techhour
- 2020-21 DL Program
 - 69 lecturers
 - Representing 12 countries
 - Total of 12 different languages spoken
 - Multiple presentations approved for continuing education credits
 - Visit CTTC webpage for details
- Technology Awards – Encourage project entry at the TC and Chapter level
 - Regional Deadline – Check with your RVC
 - Society Deadline – September 1st
- Questions for the audience
 - What information can be taken from your TC/Committee to the Chapters?
 - What can CTTC assist your TC/Committee with?

MANAGEMENT BY OBJECTIVES

CHAPTER TECHNOLOGY TRANSFER COMMITTEE ASHRAE SOCIETY YEAR 2021-22

MOHAMMAD TASSI, CHAIR

Last Update: Jun 25, 2022

| MBO | STATUS | Due Date | Assigned To | ASHRAE Strategic Plan | MBO Comments |
|---|--------------------|--------------------------|---|--|---|
| 1. Work with all chapters to conduct at least two HVAC events relevant to COVID-19 Precautionary measures and recovery plans | Partial Completion | June 2022 | All RVCs | Item 2: Indoor Environmental Quality | Given the ongoing COVID-19 Pandemic, this initiative becomes of high importance. Received feedback from 10 Regions. Complete: IV. Partially complete: I, II, III, VI, VII, VIII, X, XII, XIII. Feedback: these topics were pushed in SY 20-21 and not as much interest during SY 21-22. |
| 2. Work with all chapters to appoint at least one CTTC Co-Chair (vice-chair) per chapter (Target: at least 80% of chapters) | Partial Completion | June 2022 | All RVCs | | Capacity building, sharing expertise and succession planning are essential factors for CTTC success at Chapter, Regional and Society levels. 37% documented on CIQ; however, it is believed that the actual percentage may be higher. |
| 3. Resume the original plan for broadcasting three Tech-Hours per year | Incomplete | June 2022 | Operations Sub-Committee | Item 4: Improve Chapter Engagement, Capacity and Support | There were challenges in getting speakers and we are in the process of updating our speaker recruitment process. |
| 4. Set a plan for further collaboration with TCs and other ASHRAE Committees | Complete | June 2022 | Operations Sub-Committee | Item 3: Organizational Streamlining | DL Working Group creating video for TAC. |
| 5. Finalize the online DL Evaluation system, and enroll it at least for interested Chapters | Complete | June 2022 | - Services Sub-Committee, - DL Automation Ad HOC & - Online DL Ad Hoc | Item 3: Organizational Streamlining | Streamlined DL Participation Form in effect July 1, 2022. Digital DL Evaluation Form is currently available on DL webpage (in beta testing). |
| 6. Work towards reaching online DL platform that covers DL requests, approval and logging capabilities. (Target: finalize a reliable robust plan for implementation at a later stage) | Complete | June 2022 | | Item 3: Organizational Streamlining | |
| 7. Review the current DL selection criteria, and existing DL database, then initiate proper measures for providing wider DL diversity of relevant topics (leadership, management, finance...), languages, gender (more female DLs), and even age groups (opportunities for YEA) | Complete | June 2022 | - Member Services Sub-Committee & - DL Program Team | Item 3: Organizational Streamlining | New DL Nomination Evaluation system in effect for next DL review cycle to incorporate objective scoring, higher emphasis on diversity, international reach, and relevant topics, and evaluation of all DLs encouraging existing DLs to update records. |
| 8. Conduct at least two additional full Sub-Committee virtual meetings per year (in addition to the Winter and Annual Meetings) | Complete | Fall 2021 Spring 2022 | - Operations & Member Services Sub-Committees | Item 3: Organizational Streamlining | This initiative proved to Enhances CTTC communications, and leads to higher level of preparedness for the full Committee meetings |

| | | | | | |
|--|--|--|-----------------|--|--|
| | | | - Staff support | | |
|--|--|--|-----------------|--|--|

Management by Objectives (MBOs)

Chapter Technology Transfer Committee | ASHRAE Society Year 22-23 | Daniel Robert, Chair

Last Update: June 21, 2022

| MBO | Status | Due Date | Assigned To | ASHRAE Strategic Plan | MBO Comments |
|---|--------|------------------------|--|-----------------------|---|
| 1. Complete four Tech Hour recordings and broadcast a minimum of three during the year. | | June 2023 | Operations Subcommittee, Tech Hour Working Group, RVCs | 1, 2, 3 | To continue to develop the ASHRAE Tech Hour program to deliver multiple relevant and innovative Tech Hour programs during the 22-23 SY. |
| 2. Continue to work towards reaching a fully operational DL platform that covers DL requests, approval, evaluation, and logging capabilities with a long-term vision of having this platform available to all chapter presenters. | | June 2023 | Member Services Subcommittee, DL Automation Ad Hoc | 3 | The current DL operations includes inefficient manual DL forms for the request, approval, and evaluation process. The digital platform should greatly help minimize this by help managing all this online. Once the DL version is under operation, the plan would be to gather the info of all the speakers invited at Chapter events and share valuable info amongst all chapters. |
| 3. Work with all RVCs to increase the number of Technology Awards submissions, both regionally and at the Society level. | | June 2023 | RVCs | 4 | Each chapter should have at least one submission to the regional level. Increase the overall number of Society submissions by 25% (compared to 21-22). At least one submission to Society from these areas: Region VIII (Mexico), Region XII (Caribbean, Central/South America), Region XIII, Region XIV, and RAL. |
| 4. Enroll a minimum of four TC members as Distinguished Lecturers (DLs). | | January 2023 | Member Services Subcommittee | 1, 2, 4 | There has always been a gap between TC members and Chapter members. By getting TC members to participate in the DL program, we will reduce the gap between both entities and allow a greater diffusion of knowledge. |
| 5. Conduct two mid-year virtual subcommittee meetings per year. | | Fall 2022, Spring 2023 | Operations and Member Services Subcommittees | 3 | We will continue to enhance CTTC communications to ensure we are all meeting our goals in a timely manner. |
| 6. Work toward reducing our carbon footprint while continuing to provide member benefits and services. | | June 2023 | All Subcommittees | 4 | ASHRAE is promoting decarbonization to reduce GHG. CTTC needs to embrace this and find ways to reduce our carbon footprint, which shows everyone that we not only promote decarbonization, but we are doing our best to practice it. |
| 7. Reestablish the DL mixer at the 2023 Winter Conference in Atlanta with the target of having 50% or more of DLs present. | | February 2023 | Member Services Subcommittee | 3, 4 | The DL mixer started about five years ago at Winter Conferences and was put on hold due to the pandemic. This event allows CTTC members and DLs to get together to socialize and discuss ideas for the DL program. |
| 8. Increase submissions for the Dan Mills Chapter Programs Award and the Donald A. Siller Refrigeration Award (at least one submission from each Region for Mills and three submissions for Siller). | | November 2022 | Member Services Subcommittee, RVCs | 4 | Interest for these awards is declining. CTTC will review the submittal form and required points. RVCs will play an active role in seeking out qualified candidates. |

*ASHRAE Strategic Plan Initiatives – 1: Resilient Buildings and Communities, 2: Indoor Environmental Quality, 3: Organizational Streamlining, 4: Improve Chapter Engagement, Capacity and Support

STRATEGIC PLAN AREAS AND INITIATIVES

Initiatives provide a focus for the Society to drive advancement, create value, and improve efficiency.

Initiative Area: Built Environment of the Future

1 RESILIENT BUILDINGS and COMMUNITIES



The cycle of building development, design and construction is moving more rapidly than ever. Key stakeholders in the design, construction, and operation of buildings face new challenges of responding to a range of environmental, market and consumer-driven pressures. Increasingly, it is being recognized that “smart” buildings and integrated systems are central to successfully addressing challenges posed by climate change, natural disasters, accidents, disease and terrorism. ASHRAE must stimulate innovation and exploration related to these challenges, and promote best practices that enable adaptability, resilience and recovery of buildings and communities.

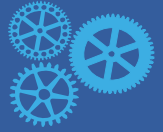
2 INDOOR ENVIRONMENTAL QUALITY



The indoor environment is increasingly recognized as the leading priority for built environment, with implications extending beyond simple acceptability of indoor conditions to its influence on productivity, learning and health. The indoor environment of the future identifies and optimizes interactions among air quality, thermal comfort, lighting and acoustics, based on a firm understanding of implications for occupants’ health and wellness. ASHRAE convenes and collaborates with experts and stakeholders across the industry to engage in discussion and exploration of this topic to accelerate collective knowledge in the field. This initiative aims to elevate ASHRAE’s role in facilitating this discussion, generating thought leadership and promoting understanding of indoor environmental quality (IEQ) among practitioners.

Initiative Area: Future of ASHRAE

3 ORGANIZATIONAL STREAMLINING



ASHRAE is a large and complex organization with hundreds of technical, standards and managerial committees, supported by a rich network of leaders and subject matter experts. ASHRAE will reach its potential for leadership and influence through an organizational structure that eliminates redundancy, has flexibility to adapt to regional differences and allocates valued time and resources to the most impactful pursuits. This initiative intends to improve internal governance, volunteer and staffing structures to ensure a strong connection across the societal organization and its chapters around the globe.







4 IMPROVE CHAPTER ENGAGEMENT, CAPACITY and SUPPORT



ASHRAE must evaluate and develop methods to better engage chapters, regions and the members they serve in an integrated way. A more supportive and proactive strategy for chapter and regional oversight will minimize variability and ensure that all ASHRAE members experience a strong and valuable connection to the local and societal component.

GOALS AND OBJECTIVES

ASHRAE's leadership has identified **three goals**: to advance the industry, provide value to ASHRAE members and prepare the Society for the future and **objectives** that support each goal. **Four initiatives** have been identified to respond to these goals and objectives as shown in the table below. The initiatives are described in detail on the next page (p. 7).

| GOAL 1 Position ASHRAE as an Essential Knowledge Resource for a Sustainable, High-Performance Built Environment | |
|--|---|
| OBJECTIVES | INITIATIVES |
| a. Utilize a holistic approach to ASHRAE's offerings and activities to drive positive economic, environmental and social impact through innovation in building design and operations |  |
| b. Expand capabilities globally to create, aggregate and disseminate essential information and knowledge focusing on emerging market trends and transformative approaches |  |
| GOAL 2 Maximize Member Value and Engagement | |
| OBJECTIVES | INITIATIVES |
| a. Infuse enthusiasm, vitality and diversity throughout ASHRAE events and services |  |
| b. Expand the impact of collaboration and partnerships with industry organizations, universities and government agencies |  |
| c. Leverage technology to increase member engagement, awareness and value |  |
| GOAL 3 Optimize ASHRAE's Organizational Structure to Maximize Performance | |
| OBJECTIVES | INITIATIVES |
| a. Prototype and launch new approaches that will increase ASHRAE's relevance and speed to market for key offerings |  |
| b. Optimize ASHRAE's organizational systems and structures to increase capacity, efficiency and effectiveness |  |
| c. Cultivate industry and member philanthropy to extend ASHRAE's impact and reach |  |

| | | | | | | | | |
|------------|---|--|---|-------------------------------------|---|------------------------------------|---|---|
| KEY |  | Resilient Buildings and Communities |  | Indoor Environmental Quality |  | Organizational Streamlining |  | Improve Chapter Engagement, Capacity and Support |
| | | | | | | | | |

2022-2023
Chapter Technology Transfer Committee (CTTC)
Assignments

Member Services Subcommittee

Andrew Reilman – Chair
 Christopher Adams
 Abigail Brophy
 John Constantinide
 Mahroo Eftekhari
 Grant Page
 Janice Peterson
 Thiago Corrêa Fonseca Portes
 Abhi Khurana

| | | |
|--|---|---|
| <p>Distinguished Lecturer Working Group John Constantinide – Chair Janice Peterson Abhi Khurana Abby Brophy</p> | <p>Dan Mills Chapter Programs Award Working Group Janice Peterson – Chair Grant Page Abhi Khurana</p> | <p>Donald A. Siller Refrigeration Award Working Group Grant Page – Chair Mahroo Eftekhari Christopher Adams</p> |
|--|---|---|

Operations Subcommittee

Daniel Redmond – Chair
 Matt Archey
 Tyler Bradshaw
 Heric Holmes
 Frank Rivera
 Arunabha Sau
 Kenneth Shifflett
 Elizabeth Zakelj
 Osama Atef Khayata
 Sivakumar Gadam

| | |
|---|---|
| <p>Tech Hour Working Group Heric Holmes – Chair Frank Rivera Abhi Khurana Liz Zakelj Tyler Bradshaw</p> | <p>PAOE Working Group Daniel Redmond – Chair Matt Archey</p> |
|---|---|

Technology Awards Judging Panel

| Member | Position |
|-------------------|-----------------------------------|
| Charles Bertuch | Chair |
| TBD | Region I Representative |
| Robert Kilpatrick | Region II Representative |
| Tyler Berry | Region III Representative |
| TBD | Region IV Representative |
| Mahroo Eftekhari | Region XIV Representative |
| Krishnan Gowri | Technology Council Representative |
| Roland Charneux | CTTC Chair's Choice |

Technical Committee Section Liaisons and Position Alias

| TC Section | CTTC Member | Position Alias |
|---------------|-------------------|--|
| Chair | Daniel Robert | cttcchair@ashrae.net |
| Vice Chair | Andrew Reilman | cttcv1@ashrae.net |
| Vice Chair | Daniel Redmond | cttcv2@ashrae.net |
| TC Section 1 | Frank Rivera | cttc1@ashrae.net |
| TC Section 2 | Abishek Khurana | cttc2@ashrae.net |
| TC Section 3 | Matthew Archey | cttc3@ashrae.net |
| TC Section 4 | Christopher Adams | cttc4@ashrae.net |
| TC Section 5 | Arunabha Sau | cttc5@ashrae.net |
| TC Section 6 | Elizabeth Zakelj | cttc6@ashrae.net |
| TC Section 7 | Grant Page | cttc7@ashrae.net |
| TC Section 8 | Kenneth Shifflett | cttc8@ashrae.net |
| TC Section 9 | Abigail Brophy | cttc9@ashrae.net |
| TC Section 10 | Tyler Bradshaw | cttc10@ashrae.net |

Council/Committee Liaisons

| | |
|-----------------------------------|--------------------|
| Members Council | Daniel Robert |
| Members Council PAOE Subcommittee | Daniel Redmond |
| Building EQ | John Constantidine |

Mentors

| Incoming CTTC Member | Mentor |
|------------------------------|--------------|
| Abishek Khurana, Region II | Frank Rivera |
| Sivakumar Gadam, Region XIII | Liz Zakelj |
| Osama Atef Khayata, RAL | Chris Adams |

Ad Hoc Committees

| | |
|--|---|
| <p>DL Automation Daniel Redmond – Chair John Constantinide Osama Atef Khayata Abhi Khurana Ahmad Nour Grant Page Frank Rivera Aru Sau</p> | <p>Promoting Award Nominations & Technology Awards Chris Adams – Chair Mahroo Eftekhari Frank Rivera Liz Zakelj Grant Page Janice Peterson Abby Brophy</p> |
|--|---|

Updates to Technology Award Submission Form

Below is a review of the edits that were made to page two of the submission form (highlighted in yellow on the actual submission form). This includes feedback received during the 2022 Winter Conference and should allow us to use a single submission form for chapter, regional, and Society submissions.

1. On the Schematic note, Added (Limited Text). We already added the Schematic to the Regional Level. The concern was an 11x17 of all text to get extra space to discuss. My thought here was to add the note and allow it to remain general and allow some discretion of submitter. If it gets abused, we can review in the future.
2. Regional Submission. It used to be 2 pages, lots of discussion back and forth on how many pages. I propose 4 at this point. My thought here is 4 allows the detail and could in theory be presented to Society as is without additional pages. I contemplated 6 then 4 additional for Society, but chose the opposite. This already doubles the regional side plus the schematic and allows up to 6 more pages after regional review. I also thought 6 for Regional could be lot and overwhelming locally. I am perfectly ok with going 6 / 4, or 4 / 6 but I believe this logic can hold up to scrutiny using the Base 4 and additional 6.
3. Changed Society Entry 5 to "an award". In the previous form and edit it was stated that multiple first place winners could be picked in each category. That is clearly a concern that you must win first place, but we can pick as many first places at the regional level. I was not a fan and the question was how to interpret. With this new wording it allows the RVC / Judging panels full discretion but states it must have been granted something at the local level and is up to the RVCs.
4. The Entry Date was questioned, so I decided on the method to state March 1st, mainly for the Spring CRC's and then all RVC to adjust if they wish.
5. Added Note on September 1st is a firm date for Society and this one doesn't move.
6. Changed wording to allow multiple entries can be elevated at the discretion of the judging panel and goes back to item 3, "an award".



ASHRAE Technology Awards

(FINAL DRAFT June 18, 2022, For Approval)

Application Form and Instructions

See Appendix for Additional Guidance and Helpful Information

Benefits of Winning a Society Award

ASHRAE Technology Award winners are recognized by peers as being innovative and capable of achieving a high level of competence. Winning projects are highlighted in articles in the *ASHRAE Journal*. The Society provides press releases to industry publications and *ASHRAE Insights*.

Recipients are honored at the Plenary Session of the Society's Winter Meeting where the first-place awards as well as the "Engineering Award of Excellence" are presented. One award plaque will be presented to an entrant representing the design team and another plaque will be presented to the building owner. The winning design firm may purchase additional plaques.

Technology Award Program

Effective energy utilization is just one of several aspects of facility and building design. The ASHRAE Technology Awards program recognizes, on an international scale, successful applications of innovative design, which incorporate ASHRAE standards for effective energy management, indoor air quality, and good mechanical design. The ASHRAE Technology Award program is intended for built projects.

The purpose of the ASHRAE Technology Awards is threefold:

1. To recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data.
2. To communicate innovative systems design to other ASHRAE members.
3. To highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners.

ASHRAE Technology Award applications are accepted in each of the following categories:

- | | |
|--|---|
| I. Commercial Buildings (New, Existing, EBCx) | III. Health Care Facilities (New, Existing, EBCx) |
| II. Institutional Buildings (New, Existing, EBCx) <ul style="list-style-type: none">• Educational Facilities• Other Institutional | IV. Industrial Facilities or Processes (New, Existing, EBCx) <ul style="list-style-type: none">V. Public Assembly (New, Existing, EBCx)VI. Residential |

ASHRAE honors only buildings and industrial facilities or processes that are outstanding in design innovation. An award in a category is not given if entries do not meet the highest standards. The Award of Engineering Excellence is given at the judges' discretion.

Note: ASHRAE Technology Awards are the HVAC&R industry's most prestigious honor for efficient energy use in building and environmental system performance. While the awards do not certify responsible charge or professional license status, they do recognize outstanding design innovation and successful implementation.

INSTRUCTIONS

1. The individual submitting the Technology Award Application must be a current member of ASHRAE who had a significant role in the design or development of the project.
2. Complete Pages 1 & 2 for Regional Competitions.
3. Page 3 with Engineer & Owner Sign-off required for Society Submissions.

Regional Entry Requirements

1. Entries shall include
 - a. Application Form – Pages 1 & 2 (Entrant Signature Only Required)
 - b. System schematic drawing/diagram not larger than 11” x 17” in size (Limited Text)
 - c. **Judging Criterion:** Brief narrative (maximum of 4 pages). The narrative should include brief discussion regarding the following five criteria (if a criterion is not applicable, state accordingly). Also note that one (1) year operational data not required for Regional Competition:
 - i. Energy Efficiency (15 Points)
 - ii. Indoor Air Quality (15 Points)
 - iii. Innovation (15 Points)
 - iv. Operation & Maintenance (15 Points)
 - v. Cost Effectiveness (15 Points)
 - vi. Environmental Impact (15 Points)
 - vii. Quality of Presentation (5 Points)
4. Submit your schematic, brief narrative, and completed form to your Chapter Technology Transfer Committee Chapter (CTTC) Chair for judging.

Society Entry Requirements

1. Entries shall include
 - a. Application Form – Pages 1 & 2 from Regional Competition. (Added Engineer of Record Signature)
 - b. Application Page 3 – Owner Release and Signature
 - c. **Judging Criterion:** A maximum of an additional six (6) double-spaced sheets (8.5x11 inches or SI equivalent) to expand upon and address the - *Energy Efficiency, IAQ, Innovation, Etc.* (Charts, schematics, & graphics are included in the 6-page limit.)
 - d. One (1) Year Operational Data. (Must be included in the page limit)
 - e. *All pages should be numbered.*
2. The entrant must be willing to supply any additional information if requested by the judging panel
3. The entrant must submit one (1) completed application with signatures (electronic signatures are accepted). The entrant, property owner, and engineer of record must sign the Application Form where indicated.
4. The project must have been in successful operation for at least one year at the time of entry.
5. In order for an entry to be judged at the Society level, it must have received an award at the Regional level. All submissions to Society must be approved by the RVC and/or Regional Judging Panel recognizing the highest level intent of this prestigious award and are expected to be high level region winners.

Submission Deadlines

1. Regional entries are due March 1st. NOTE: Regional Submission Date may be adjusted by RVC.
2. RVC must submit winning regional entries to ASHRAE Headquarters by September 1st. This is a firm date for Society.
3. The CTTC RVC will invite winners in each category from Regional competition to submit for judging in the Society level Technology Awards competition. The Regional winners will be given the opportunity to incorporate new information or otherwise improve their submittal before submitting it to the Society level competition (e.g., by addressing comments from regional judges). At the discretion of the judging panels at the Chapter and Regional competitions, multiple entries may be elevated to Society in each category.

ASHRAE Technology Awards Application Form
***Required for Society-Level Competition**
(Page 1)

Application must be complete to be considered for judging

1. Identification

a. Name of building or project: _____

2. Category – check one category and indicate New, Existing, or Existing Building Commissioning (EBCx)

| | | | |
|---------------------------------------|-----|----------|------|
| Commercial Buildings | New | Existing | EBCx |
| Institutional Buildings | New | Existing | EBCx |
| Educational Facilities | New | Existing | EBCx |
| Other Institutional | New | Existing | EBCx |
| Health Care Facilities | New | Existing | EBCx |
| Industrial Facilities or Processes | New | Existing | EBCx |
| Public Assembly | New | Existing | EBCx |
| Residential (Single and Multi-Family) | New | Existing | EBCx |

3. Project Description

a. Type of building or process: _____

b. Size – gross and net floor area of building (ft. sq. or m. sq.):

c. Function of major areas (such as offices, retail, food services, laboratories, guest/patient rooms, laundry, operating rooms, warehouse/storage, computer rooms, parking, manufacturing, process, or industrial process description):

d. Project design period: _____ to _____
Begin date (mm/yyyy) End date (mm/yyyy)

e. Project occupancy and operation period: _____ to _____
Begin date (mm/yyyy) End date (mm/yyyy)

f. ASHRAE Standards reference during design (this information will not be shared with the judging panel):

**ASHRAE Technology Awards Application Form
(Page 2)**

4. Entrant (Active ASHRAE member with significant role in project required):

Name: _____

ASHRAE Member #: _____ ASHRAE Chapter: _____ ASHRAE Region: _____

Entrant's Design Firm/Company: _____

Address: _____

Phone: _____ Email: _____

Entrant's role in project: _____

Design Team Members *Maximum of 3 and all must be an ASHRAE member

| | | | |
|----|-------|---------|-----------------|
| 1. | _____ | _____ | _____ |
| | Name | Company | ASHRAE Member # |
| 2. | _____ | _____ | _____ |
| | Name | Company | ASHRAE Member # |
| 3. | _____ | _____ | _____ |
| | Name | Company | ASHRAE Member # |

5. Certification of Entrant (*If multiple entrants, all must be listed on this form)

I certify the information submitted is correct, and that this entry satisfies the requirements of the ASHRAE Technology Award competition.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

6. Engineer of Record *Required for Society Entries or a written explanation provided as to why the EOR will not grant consent.

I consent to the presentation of this project for consideration in the ASHRAE Technology Awards Program.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

Company: _____

Address: _____

Phone: _____ Email: _____

**ASHRAE Technology Awards Application Form
(Page 3)**

7. Building Owner's Release (Building Owner cannot be the same person as Entrant)

I certify I am the owner or authorized representative of this project and hereby grant ASHRAE permission to use all enclosed information in the judging and subsequent publicity of this project.

Typed Name: _____ Title: _____

Signature: _____ Date: _____

Company: _____

Address: _____

Phone: _____ Email: _____

The topics below are the Judging Criteria and should be addressed on separate pages and formatted according to the requirements listed in the Instructions.

- 1. Energy Efficiency (15 Points)**
- 2. Indoor Air Quality (15 Points)**
- 3. Innovation (15 Points)**
- 4. Maintenance & Operation (15 Points)**
- 5. Cost Effectiveness (15 Points)**
- 6. Environment Impact (15 Points)**
- 7. Quality of Presentation (5 Points) – no response required, Judges Discretion**

Return completed application to your CTTC RVC.

For additional information, please contact:

**Rhiannon Masterson
Chapter Programs Manager
ChapterPrograms@ashrae.org
678-539-1128**

Appendix

Supplemental Information/Details to Assist Entrant

Topics

- 1) General Instructions/Guidelines
- 2) Judging Criteria
- 3) Helpful Hints
- 4) Frequently Asked Questions

General Instructions/Guidelines

1. A system schematic is strongly recommended (color-coded or black and white schematics are acceptable).
2. If a "judging criterion" is not applicable to the entry, a brief explanation should be provided.
3. Claims that are not sufficiently supported with verifiable technical evidence may receive little or no credit.
4. Information should be clear and concise.
5. If the project involves technology which is new and innovative, this feature should be clearly identified.
6. Commercialized items/notations are to be avoided. Brand names of equipment or processes should not appear in the entry.
7. Information may be submitted in IP or SI units or a combination of both.
8. All text must be in English.
9. Entries should be legible and uncluttered. Black font should be used for text (colored text should not be used, but color text for schematics is acceptable). The competition does not require nor encourage the entry be professionally produced.
10. Photographs are not necessary but are allowed as long as they can be incorporated within the maximum submission page length allowance.

Judging Criteria

If any of the scoring topics below are not applicable to the project, the entrant should state why. In such cases, judges are instructed to assign a "plug" score on the non-applicable topics so that the overall project score is on an equivalent basis with other entries.

1. Energy Efficiency (15 points)
 - a. Entries must comply with the latest ASHRAE Standard 90.1 for new construction and Standard 100 series for existing buildings. The applicant is encouraged to use the computer modeling programs in Standard 90.1 and include summarized results to substantiate compliance. The entrant should list the type of energy modeling software used (i.e. DOE2, EQuest, etc.). Innovative ways to control, reuse or reduce energy consumption should be discussed. The entrant should specifically list the version of ASHRAE Standard 90.1 or ASHRAE Standard 100 that was used.
 - b. One year's energy consumption data **required for Society Submissions**. Actual measured energy use for the building "In Operation" shall be stipulated in the entry report in CBECS EUI format (kBtu/ft²/yr or S-I equivalent) or in ASHRAE Building Energy Quotient (bEQ) in operation format. In an industrial process, past energy usage may be compared to new, improved energy consumption.
2. Indoor Air Quality (IAQ) and Thermal Comfort (15 Points)
 - a. IAQ encompasses indoor environmental quality, thereby including thermal comfort and, if appropriate to the project, other factors as well. Judges are interested in pertinent topics such as operating procedures (where, for example, pre-occupancy ventilation is a significant factor), source control of contaminants, system commissioning and evidence that design objectives have been achieved. Ventilation effectiveness could be an important aspect of the project (e.g., air distribution in auditoriums or with landscape office partitioning).
 - b. While carbon dioxide, air velocity and other field measurements are impressive, they are not essential for making an award. Judges realize that such data may not be available and do not want to discourage a worthy entry. Descriptions of means of compliance with ASHRAE Standards 55 and Standard 62 are of value. Merely stating that ventilation and thermal comfort comply with these standards is superficial treatment.
 - c. The information should show that the entrant has indeed addressed these standards in the design. For example:

Standard 55

- Assumed activity levels
- Clothing thermal resistance values assumed
- Air velocities measured
- Space air temperatures

Standard 62

- Ventilation rate or IAQ criteria specified
- Ventilation effectiveness assumptions
- Methods of handling special pollutant sources
- Version of Standard Used

- Radiant thermal control
 - Humidity/condensation
 - Version of Standard used
- d. Innovative approaches assuring good IAQ and thermal comfort in an efficient manner are of interest to judges. Support data or evidence of building performance claims might include:
 - i. The rate of occupant complaints, (if any)
 - ii. Objective measurements of ventilation, air pollution, and thermal comfort parameters (Carbon dioxide levels, measured outside air ventilation rates, pollutant concentrations measured)
 - iii. Improvements in human performance such as decreased absenteeism
 - iv. Building pressure relationships for odor or IAQ control
3. Innovation (15 Points)
 - a. The innovative aspect of the project design must be clearly described—especially innovative application of technologies (both old and new) to a particular situation. New technology or innovation itself is not sufficient unless the needs of the facility are truly met. The uniqueness of the application is the basis of judgment. It should be indicated, for example, how the innovations are key to overall building performance.
 4. Operation and Maintenance (15 Points)
 - a. The intensity of required maintenance for the installed system should be addressed as compared to those non-selected options and/or previous systems. The building commissioning process, if thought to be innovative, shall be included in this category.
 5. Cost Effectiveness (15 Points)
 - a. One-year's data demonstrating the performance of the design or process should be provided. Data from prior years should be included if the project is a retrofit situation. Payback periods (in years) should be established. Entrant shall fully explain the basis for all cost savings, including utility rate schedules (off-peak rates and other charges).
 6. Environmental Impact (15 Points)
 - a. Design shall address items on reduction of global climate change gases (i.e. carbon dioxide emissions), elimination of CFCs, reduction in waste discharge and other environmentally favorable items, if applicable.
 7. Quality of Presentation (5 Points)
 - a. Entries are judged for logical presentation with good features clearly highlighted. Simple-to-read system schematics, charts and graphs are advantageous and are encouraged as the most effective tool in concise presentation of a system and its performance. Points may be deducted for failure to follow type size, spacing and format instructions.
 8. Judges' Prerogative (5 Points)
 - a. Judges may award up to five (5) additional discretionary points.

Helpful Hints

Entries which fail to receive recognition frequently do not address important items relative to the project. The following items are among those cited by the judges. Not all the items shown would necessarily apply to all entries.

1. Energy Efficiency Category
 - a. No actual or projected energy use data
 - b. Efficiency not addressed
 - c. Project, *as presented*, is not feasible
2. Indoor Air Quality
 - a. Claims unsubstantiated with any supporting evidence
 - b. Ventilation rate not in compliance with current ASHRAE standard at the time project was designed; indicate time frame of design process
 - c. No discussion of occupant comfort or IAQ complaints or lack of complaints
 - d. No discussion of ventilation effectiveness
3. Cost Effectiveness
 - a. No cost payback figures
 - b. Incorrect calculations
 - c. Unsubstantiated payback claims
4. Presentation
 - a. Font size is too small
 - b. Spacing or margins are not per instructions
 - c. Flow charts are illegible or unclear
 - d. Schematics are vague or incorrect
 - e. Excessive pages (10 pages plus the 3-page Application Form)
5. Innovation
 - a. Innovative aspect of project is not discussed or explained
6. General
 - a. Project description is too general
 - b. Excessive use of brand names giving the appearance of a sales brochure

- c. Old project with no new work performed
- 7. Maintenance and Operation
 - a. Maintenance and operation were not discussed

Frequently Asked Questions

1. If not all the scoring topics apply to the project, can the entry be considered in the competition?
 - a. Yes. Judges are instructed to use a "plug" score for a project that is innovative and good in most respects, but does not lend itself to all criteria. For example, a wood-drying operation may not have an impact on indoor air quality. However, points will be deducted from the scoring where the topic definitely applies to the project but was ignored.
2. Do Society competition rules apply to Chapter or Regional competitions?
 - a. Chapter competitions may develop their own criteria, as long as it *clearly* states that the recognition is an ASHRAE *Chapter Award*. Regions are encouraged to follow the Society criteria to facilitate easy "clean-up" and entry for Society competition.
3. Can changes be made to an entry after the Regional competition prior to submitting to Society judging?
 - a. Yes. A Regional winner may make changes to the entry to incorporate comments from Regional judges or to improve the submittal.
4. Can an entry be considered if one year's operating data are not obtainable?
 - a. Yes. A reasonable explanation must be included as to why the data are not available. The results of a nationally recognized computer modeling program showing one year's energy use must be provided. However, the project must still have been in operation for at least one year.
5. Is professional registration required to be an entrant?
 - a. No. Entrants must simply be a member (any grade) of ASHRAE.
6. What is the difference between an Existing Building project and an Existing Building Commissioning (EBCx) Project?
 - a. Existing Building Commissioning (EBCx) is a process for investigating, analyzing, and optimizing the performance of building systems through the identification and implementation of low/no cost facility improvement measures and ensuring their continued performance. EBCx is intended to be a comprehensive term defining a process that encompasses the more narrowly focused process variations such as retro-commissioning, re-commissioning and ongoing commissioning commonly used in the industry. Entrants should check the EBCx box on their applications instead of the Existing box if the scope of the project did not include significant upgrades of the existing systems.



JUNE, 2022

ASHRAE CERTIFICATION: Information Chapters & Members Need

Developments

NEW! Certification Study Guides: [Building Energy Modeling Professional](#) (BEMP) & (August, 2022) [Building Commissioning Professional](#) (BCxP)

- ✓ Must-have guide to study of key ASHRAE publications linked to exam job tasks
- ✓ 100-question practice exam

NEW! “Value of ASHRAE Certification” Survey Data

- ✓ Compelling value propositions:

Employee

"Increased credibility." (69%)
 "Improved career opportunities." (60%)
 "Increased earning power." (43%)

Employer

"Evidence of the level of competence." (90%)
 "Greater confidence in ... skills." (85%)
 "Led to business opportunities." (54%)

- ✓ [“Executive Summary”](#) of survey results

NEW! ROB Ensures Recognition of Certification Designations in ASHRAE Media

NEW! Developing Economies Member Pricing – 40% Discount

NEW! “Certification” [Presentation](#) for Chapter Meeting Delivery -

NEW! “Certification” Articles in “Chapter Notes” Monthly Newsletter



How can CTTC help Chapters share ASHRAE Certification information to Members?

Value for Chapters

- ✓ Grow Chapter membership | **Increase participation at education events.** Certificants need PDHs!
- ✓ **Earn 100 and 50 PAOE points**, respectively, for Member certification and recertification.

Value for Chapter Members

- ✓ **Validation** of specialized job knowledge, skills and ability
- ✓ Unparalleled **recognition** | **Career development**

Over **3,500 ASHRAE certifications** earned by built-environment professionals in these key jobs:

| | | | |
|----------------------------|----------------------------------|---------------------|-------------|
| Commissioning | Energy Auditing | Energy Modeling | HVAC Design |
| Healthcare Facility Design | High-Performance Building Design | Building Operations | |

For assistance, including requests for promotional materials, please contact Tim Kline at tkline@ashrae.org,

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

June 24, 2022

**ASHRAE Refrigeration Committee-Comfort,
Process and Cold Chain (REF-CPCC)**

**Liaison Report to
Chapter Technology Transfer Committee
2022 Summer Meetings in Toronto**

Liaison: Charlie Hon
chon@truemfg.com

1

1

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

ASHRAE Covid Activities

<https://www.ashrae.org/search?q=Covid>

<https://www.ashrae.org/technical-resources/resources>

2

2

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

Regulatory Activities on Refrigerants - EPA

The AIM Act was passed early in 2021
2022-2023 10% reduction from Baseline
2024-2028 40% reduction from Baseline
2029-2033 70% reduction from Baseline
2034-2035 80% reduction from Baseline
2036- 84% reduction from Baseline

[Phasedown of Hydrofluorocarbons \(HFCs\): Issuing Allowance Allocations | US EPA](#)

3

3

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

Regulatory Activities on Refrigerants - AIM Act

[Phasedown of Hydrofluorocarbons \(HFCs\): Issuing Allowance Allocations | US EPA](#)

[Final Rule - Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the AIM Act | US EPA](#)

[Allowance Allocation Methodology for 2022 | US EPA](#)

[Allowance Allocation Methodology for 2022 | US EPA](#)

4

4

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

**A consortium of States have formed the
“United States Climate Alliance”**

(The “Alliance” now includes 25 States and more than 55% of
the US population)

States with regulations in place for restrictions of refrigerant
use similar to SNAP 20 & 21 rules

California, Colorado, Delaware, Maine, Maryland,
Massachusetts, New Jersey, New York, Rhode Island, Oregon,
Vermont, Virginia, Washington

Connecticut, Hawaii, New Mexico, and Pennsylvania are
working on similar Regulations

5

5

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

Ozone-depleting Substances and Halocarbon
Alternatives Regulations ([justice.gc.ca](https://www.justice.gc.ca))

**Table 4 shows applications and GWP limits for most
applications and dates**

6

6

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

Regulatory Activities on Refrigerants

UL/CSA 60335-2-40 (Air Conditioning) has increased charge sizes for Flammable Refrigerants (being reviewed)

UL/CSA 60335-2-89 (Refrigeration Equipment) has increased charge sizes for Flammable Refrigerants

7

7

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

UNEP OzonAction Virtual Exhibition

<https://ozone.unep.org/coldchainexhibition/index.html>

UN Global Status Report for Sustainable Cold Chains

<https://coolcoalition.org/status-of-the-global-food-cold-chain-summary-briefing/>

IIR-UNEP Cold Chain Technology Brief- Vaccines

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CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

GFCCC-UNEP Cold Chain Database Model

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CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

**Refrigeration Committee
For Comfort, Process and Cold Chain**

Webpage:[Refrigeration Technology Committee for Comfort,
Process, and Cold Chain \(ashrae.org\)](#)

Recent Meeting Minutes

Manual of Procedures, Rules of the Board, Reference Manuals

Members First! Newsletters

Meeting Sunday June 26, 2022, at 8:00 am – 12:00 pm

(Refrigeration Committee Has been renamed)

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

- **REF Webpage**
 - **Refrigeration Technology Awards by REF**
 - **Recognize the Designer and Owner of the Refrigeration Project exhibiting the Best Innovation and/or New Technology with Links to:**
 - "Milton W. Garland Commemorative Refrigeration Award for Project Excellence"
 - "Refrigeration Comfort Cooling Award for Project Excellence"
 - Awarded at Plenary Session during Annual Conference

11

11

CTTC REF-CPCC Report
ASHRAE Summer Meetings 2022 in Toronto

Chapter Program Support – Efforts Underway

- **Encourage Expert Refrigeration Speakers for Distinguished Lecturer Program**
- **Encourage Refrigeration Programs with broad appeal to Chapters**
- **Develop list of Refrigeration Programs and Speakers with wide appeal**

12

12

CTTC REF-CPCC Report ASHRAE Summer Meetings 2022 in Toronto

- **Advance Chapter Interest in Refrigeration**
 - **Seeks to promote Refrigeration Education and Training for Students and Seasoned Practitioners**
 - **Technology Transfer Programs**
 - Refrigeration Programs at ASHRAE Conferences
 - "George C. Briley ASHRAE Journal Award"
 - Best Refrigeration-related Article
 - Awarded at REF Meeting, Winter Conference

13

13

CTTC REF-CPCC Report ASHRAE Summer Meetings 2022 in Toronto

- **Advance Chapter Interest in Refrigeration**
 - REF continues to work with and thru CTTC to Identify and Develop Resources and Implement Programs to enhance Chapter Refrigeration Activities including:
 - Work with the TCs to develop Hands-on, Low-Cost Refrigeration Projects for College Lab Classes
 - Present Seminars at ASHRAE Conferences on Refrigeration Topics
 - Promote and solicit applications for Milt Garland, Comfort Cooling, and George Briley Refrigeration Awards
 - Submit recommendations to CTTC for PAOE criteria for Chapter Refrigeration Activities
 - Strongly encourage RVCs to actively promote strong Chapter participation in the recently approved "R in ASHRAE" Award

14

14

THANK YOU

**For your Participation & Support
of ASHRAE Activities**



ASHRAE Leadership Presentation

1

ASHRAE Policies



Code of Ethics

"We will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and we shall avoid all real or perceived conflicts of interest."

Harassment and Discrimination Policy

ASHRAE strictly prohibits and does not tolerate discrimination against members or applicants for membership because of such individual's race, color, religion, age, sex, sexual orientation, national origin, physical or mental disability, pregnancy, genetic information, veteran status, uniformed service member status, or any other category protected under applicable law.

Commercialism

ASHRAE's Commercialism Policy allows for Society activities that fulfill the mission of technological advancement with adherence to business plans that generate income to offset operational expenses such as AHR Exposition, ASHRAE periodicals, website, and Society conference events such as the Welcome Party, luncheons, registration kits, and receptions.
[ashrae.org/commercialism](https://www.ashrae.org/commercialism)

View ASHRAE Governing Documents at [ashrae.org/about/governance](https://www.ashrae.org/about/governance) ←

2

Nominations Needed!




| | |
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| <p>Committee Nominations</p> <ul style="list-style-type: none"> Due mid-February. Council, RAC, TAC, Standards and Handbook nominations are due mid-September. Speak with your committee ExO if your current appointment ends in June and you wish to be nominated for another committee. <p style="text-align: center; font-weight: bold;">Learn More about Technical and Society Level Committees</p> <p style="text-align: center;">  ashrae.org/committee-nominations </p> | <p>Honors & Awards Nominations</p> <p>ASHRAE's awards fall into one of six categories:</p> <ul style="list-style-type: none"> Personal Honors Personal Awards for General & Specific Society Activities Paper Awards Society Awards to Groups or Chapters Chapter and Regional Awards <p style="text-align: center; font-weight: bold;">Learn More and Nominate Someone Today</p> <p style="text-align: center;"> ashrae.org/honorsandawards  </p> |
|---|--|

ASHRAE Technical Committees (TCs) and Volunteer Opportunities at ashrae.org/communities

3


ASHRAE Commitment to Care Statement



The health and safety of all ASHRAE conference attendees is a top priority.

Out of respect for our fellow attendees, we strongly recommend wearing masks indoors, to monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols.

We are committed to the well-being of one another.

View the full Commitment to Care at ashrae.org/2022Annual 

4

ASHRAE Simplified Rules of Order & Quick Reference



ASHRAE SIMPLIFIED RULES OF ORDER & MEETING FUNDAMENTALS

Updated by the Society Rules Committee: February 1, 2022
Approved by the ASHRAE BOD: February 2, 2022

NEW!

ASHRAE Simplified Rules of Order – Quick Reference

Guiding Principles

- Meetings are opportunities to share and be inspired.
- Everyone has the right to participate in discussion of items with before anyone may conduct a motion.
- Everyone has the right to vote when voting is called for. Only urgent matters may be decided by ballot.
- Only one thing (motion) can be discussed at a time.

A motion to bring a topic under discussion is: "I move that we call a roll call vote on this motion." (After being recognized by the president of the Society, any member can introduce a motion other than a motion to bring a motion under discussion.) There is no second. The motion is not considered. Each motion must be discussed if passed. A motion is not subject to a counter, or postponed indefinitely.

How to do things:

- You want to bring a new item before the group:** You recognize the president of the Society, announce your motion. A second is required for the motion to go to the floor for discussion or consideration.
- You want to change some of the wording in a motion under discussion:** After recognition by the president of the Society, move to amend.
 - calling motion
 - calling question
- You like the idea of a motion being discussed, but you need to amend it beyond simple word changes:** Move to substitute your motion for the original motion. If it is seconded, discussion will continue. A motion to amend is not subject to a counter or postponed indefinitely.
- You want more time with another topic on the floor during the meeting:** Move to extend the meeting. This is subject to a counter.
- You want more time personally to talk the proposal being discussed:** Move to postpone to a definite time or date.
- You are finished with the current discussion:** Move to bring discussion to a vote (roll call, ballot, or a vote by show of hands). Requires a 2/3 vote.
- You have heard enough discussion:** Move to close the debate. This motion is not subject to a counter. The vote of discussion and

Download the rules and quick reference
ashrae.org/communities/committees/society-rules-committee

- Presented by the Society Rules Committee and BOD approved at the 2022 Winter Conference.
- Intent is to streamline meetings by providing simpler meeting guidance. Rules generally follow Roberts Rules of Order but are intentionally modified for the purpose of use in ASHRAE meetings.
- Councils and Committees are **expected** to be fully operational in the new meeting guidance beginning **July 1, 2022**.

These are big changes for our Society, and [we need your assistance to implement the approved changes at the Society and Chapter level.](#)

Questions or comments regarding the new rules of order and quick reference?
 Contact boardservices@ashrae.org

5

President's Luncheon



Monday, June 27
12:15 – 2:00 pm

Securing Our Future

2022-23 ASHRAE President
Farooq Mehboob, Fellow Life Member ASHRAE

6

World Refrigeration Day



The Coolest Day of the Year June 26, 2022

The day raises awareness of refrigeration, air conditioning and heat pumps and their role in modern society to a wider audience

#coolingmatters

Learn More at worldrefrigerationday.org

7

2022-23 Board of Directors

Executive Committee



Through an elaborate committee structure, including committees and councils, ASHRAE policies are established by a **Board of Directors** comprised of Society members elected by the membership. Board members serve terms of one to three years, including the President who serves a one-year term.

President



Farooq Mehboob, P.E.
Fellow ASHRAE, Life Member
Karachi, Pakistan

President-Elect



Ginger Scoggins, P.E.
Raleigh, North Carolina

Treasurer



Dennis Knight, P.E.
Fellow ASHRAE
Mt. Pleasant, South Carolina

Vice Presidents



Dunstan Macauley, P.E.,
HBDP
Arlington, Virginia



Sarah E. Maston, P.E., BCxP
Hudson, Massachusetts



Billy Austin, P.E., BCxP, BEAP,
BEAP, HBDP, HFDP, OPMP
Charlotte, North Carolina



Ashish Rakheja
Noida, Uttar Pradesh, India

8

2022-23 Board of Directors

Director and Regional Chairs










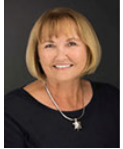
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| Region I | Region II | Region III | Region IV | Region V |
|  Steven C. Sill Sterling, New York |  Ronald Gagnon Quebec, Canada |  Mark Tome, P.E., HFDP Harrisburg, Pennsylvania |  Bryan Holcomb Oak Ridge, North Carolina |  James Arnold, P.E. Dublin, Ohio |
| Region VI | Region VII | Region VIII | Region IX | Region X |
|  Susanna Hanson La Crosse, Wisconsin |  Chris M. Gray, Ph.D., P.E. Atlanta, Georgia |  Randy C. Schrecengost, P.E., BEAP Austin, Texas |  Tyler J. Glesne, BCxP, BEAP Omaha, Nebraska |  Devin A. Abellon, P.E. Los Angeles, California |
| Region XI | Region XII | Region XIII | Region XIV | Region-at-Large |
|  Eileen Jensen, P.E. Vancouver, Washington |  John Constantinide, P.E., Merritt Island, Florida |  Cheng Wee Leong, P.E., Singapore |  Andres J Sepulveda Madrid, Spain |  Richie Mittal New Delhi, India |

9

2022-23 Board of Directors

Directors-at-large

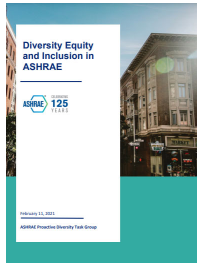


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|--|--|---|
|  Wade Conlan, BCxP Maitland, Florida |  Blake Ellis, P.E. Overland, Kansas |  Dru Crawley, Ph.D., BEMP Washington, D.C. |
|  Kenneth Fulk Allen, Texas |  Art Giesler Colleyville, Texas |  Wei Sun, P.E. Ann Arbor, Michigan |
|  Kishor Khankari, Ph.D. Ann Arbor, Michigan |  Luke Leung, P.E. Clarendon Hills, Illinois |  Adrienne Thomle Reno, Nevada |

10

Diversity, Equity, & Inclusion (DEI) in ASHRAE

BOD Subcommittee created by the Board in January 2021



Download the Report
ashrae.org/DiversityEquityInclusion

The purpose of the BOD DEI Subcommittee is to advise and engage the Board of Directors on:

- All matters relating to diversity, equity and inclusion - with a view to improving organizational awareness and performance in these areas amongst both staff and the Society membership
- The establishment of annual budgets for DEI program and ongoing initiatives
- The prioritization of inclusivity issues which have relevance to ASHRAE, together with plans for addressing these issues
- Potential DEI training modules for Chapters and Committees

Members of the BOD DEI Subcommittee

Adrienne Thomle (Chair); Kishor Khankari (Vice Chair); Devin Abellon; Susanna Hanson; Wei Sun; Ashish Rakheja; Tanisha Meyers-Lisle (Staff Liaison)
 Dunstan Macauley; Billy Austin; Dennis Knight; Farooq Mehboob (Consultant); Steven Sill



11

Task Force for Building Decarbonization



Initiative of ASHRAE President and President-Elect, with the realization that our successful initiatives in building energy efficiency should be expanded to building decarbonization

- **15** members, Co-Chaired by Presidential Members Don Colliver and Tom Phoenix
- **9** working groups with over **100** international volunteers
- Positioned ASHRAE to tackle building decarbonization with the same level of importance and urgency as ASHRAE tackled energy efficiency during the energy crisis

SY2022-23 Evolution:

- TFBD ExCom to develop and implement strategic direction
- Operational Subcommittee to develop content for six guides
- Products and Services Subcommittee to oversee Web Site & Knowledge Hub, and Training & Education

Email questions or input to decarb@ashrae.org and learn more at ashrae.org/decarb

12

Distinguished Lecturer



Distinguished Lecturer

Do you want to be the next ASHRAE Expert in Building Decarbonization?

ASHRAE Distinguished Lecturer (DL) will share knowledge virtually and in-person with ASHRAE Chapters about topics related to building carbon footprint reduction.

Topics associated with building decarbonization include:

- Operational carbon
- Embodied carbon
- Building system electrification
- Building performance standards
- Grid-building intersection
- Appliance and equipment standards
- Site sequestration

Submit Nominations by December 1

To learn more, visit www.ashrae.org/dl

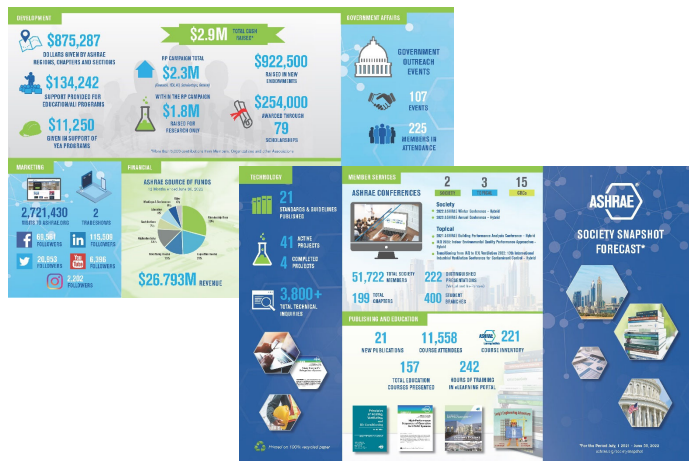
Society Updates



Approved ByLaws Change: Full Member

ASHRAE Membership voted to approve changing the title of 'Member' grade to 'Full Member' grade to differentiate between those who have provided necessary education and professional background information to the Society in order to qualify as a Full Member grade.

Request to Advance to Full Member Grade
Associate and Affiliate members may request to advance to Full Member grade by updating their membership bio in their ashrae.org profile and notifying membership@ashrae.org.



View the latest Society Snapshot at ashrae.org/society-snapshot

Membership & Communities

➔
Your Benefits ashrae.org/membership

New Member Benefit Selection

Full dues paying Full and Associate Members may select from the following complimentary annual member benefits:

- ✓ ASHRAE eLearning Course
- ✓ ASHRAE Standard (PDF)
- ✓ ASHRAE Handbook (PDF)

Visit ashrae.org/chapters to quickly find the chapters nearest you!

New Benefits for Employers and Members

10% Discount - Starting July 1 ★

Employers who sign up 5 or more Employees in a single transaction receive a 10% discount.

Free Winter or Annual Conference

New full dues paying members who join after July 1 receive one complimentary registration to a Winter or Annual Conference to be used within the first two years of their membership.

Connect-A-Colleague

Invite peers to join ASHRAE and participate in committees using a pre-written email invitation at ashrae.org/connect

Your Community ashrae.org/communities ➔

15

Supporting ASHRAE's Mission

Research Promotion (RP)

The Research Promotion campaign supports ASHRAE Research, Education, YEA programs, Scholarships, Endowed Funds, the RP General Fund and Special Initiatives.

★ **Thank You** to all the **donors and volunteers** for your support during this challenging year.

Society Year 2020-2021 total raised: **\$2,300,519**

- **\$1,769,785** in contributions for Research
- **\$332,698** for ASHRAE Foundation
- **\$134,666** for Scholarships
- **\$63,370** for General Fund, YEA, and Education

ASHRAE Foundation Grants & Scholarships

The ASHRAE Foundation is an endowed trust that provides funding for professional development and research programs, supplies qualified engineering students with much needed scholarship assistance, and provides grants to help support the Society's vital work.

SY 2021-22

46

Society Scholarships totaling \$200,000

33

Chapter-Awarded Scholarships totaling \$54,000

ASHRAE Chapters provide an additional \$196,000 in scholarship support locally

Donate, Volunteer, Apply, and Learn More at ashrae.org/support ➔

16

8

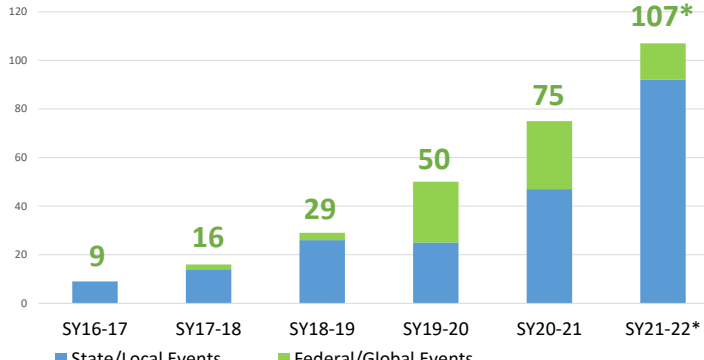
Government Affairs

ASHRAE Government Affairs program works to establish ASHRAE as a leading source of trusted expertise for policy-makers in the development of legislation and regulations affecting the public and HVAC&R industry.

- The **Government Affairs Update** bi-weekly newsletter provides updates on government activities. Subscribe online or by emailing GovAffairs@ashrae.org.
- Government Outreach Events** connect ASHRAE volunteers with policy-makers.
- Letters, briefings, testimony, and comments are sent in support of ASHRAE's **Public Policy Priorities**: 36 sent this year.

Get Involved + Get Resources
ashrae.org/government-affairs

Government Outreach Events




| Year | State/Local Events | Federal/Global Events | Total Events |
|----------|--------------------|-----------------------|--------------|
| SY16-17 | 9 | 0 | 9 |
| SY17-18 | 16 | 0 | 16 |
| SY18-19 | 29 | 0 | 29 |
| SY19-20 | 50 | 0 | 50 |
| SY20-21 | 75 | 0 | 75 |
| SY21-22* | 107 | 0 | 107 |

*SY21-22 shows estimated total events held

17

Professional Development

| | | |
|--|--|---|
| eLearning Convenient, on-demand courses for individuals or groups. | ASHRAE Learning Institute (ALI) Instructor-led courses in a variety of formats. | Certification Validate and promote your expertise via online examination and digital badging. |
| <p>90+ online courses starting at \$42 for members.</p> <p>Group Rates Available</p> <p>Updated Course Catalog: elearningcatalog.ashrae.org</p>  | <p>See the Updated Schedule of In-Person and Virtual HVAC Design Courses!</p> <ul style="list-style-type: none"> Level I – Essentials Level II – Applications <p>NEW Courses Added to the Instructor-led Online Series ashrae.org/onlinecourses</p> <p>Courses Available for ASHRAE Chapter, and In-Company Presentations.</p> | <p>Building Design</p> <ul style="list-style-type: none"> Energy Modeling (BEMP) Healthcare Facility Design (HFDP) High-Performance Building Design (HBDP) HVAC Design (CHD) <p>Building Performance</p> <ul style="list-style-type: none"> Commissioning (BCxP) Energy Assessment (BEAP) <p>Building Operations</p> <ul style="list-style-type: none"> Operations & Performance Maintenance (OPMP) |

ashrae.org/professional-development

18

Publications

Be on the lookout for updated Standards 90.1 and 62.1 later this year.



Recently published items available at [ashrae.org/bookstore](https://www.ashrae.org/bookstore)



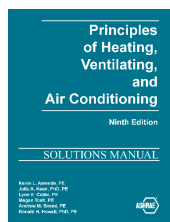
Designing for Operational Excellence—Intentional Design for Effective Operation and Maintenance



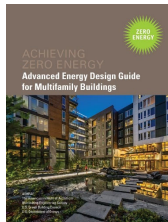
ASHRAE Standard 15.2: Safety Standard for Refrigeration Systems in Residential Applications (ANSI Approved)



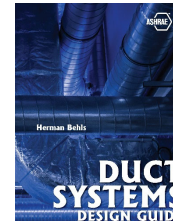
Lucy's Engineering Adventure



Principles of Heating, Ventilating, and Air Conditioning, Ninth Edition



Advanced Energy Design Guide for Multifamily Buildings – Achieving Zero Energy (AEDG)



Duct Systems Design Guide

19

Resources



| | |
|---|---|
| ASHRAE Technology Portal | Provides a one-stop location for ASHRAE papers, articles, reports, Handbook PDFs, and seminar recordings. |
| Online Standards Database | Allows access to public review drafts for standards, guidelines, and addenda to submit comments, to do online balloting, and to submit proposals to standards and guidelines. |
| Zero Energy Advanced Energy Design Guides (AEDG) | Available for free download: NEW! NZE Guide for Multifamily Buildings, and AEDG for offices and K-12 schools. |
| Science and Technology for the Built Environment | Provides free online access to archival research publication offering comprehensive reporting of original research. |
| ASHRAE Technical Apps | Deliver mobile design, calculation, and analysis tools to the palm of your hand. |
| Free Technical Resources | Offer downloads of a variety of well-known resources to everyone. |
| ASHRAE 365 | Updates on all things ASHRAE, for free and year-round. |

Find these resources and many more at [ashrae.org](https://www.ashrae.org)

20

Marketing Central



Created for the busy volunteer, **Marketing Central** is a single page resource for Society-related marketing materials.

Resources organized by file type:

- Canva Templates
- Forms
- Logos
- PDFs
- PowerPoint Presentations
- Templates
- Toolkits
- Tradeshows
- Videos
- Virtual Backgrounds



A template created by ASHRAE was shared with you, start designing now



- Request promotional freebies
- Shop the logo store
- Order Chapter supplies

Logo Items



Promotional Freebies

SUBMIT ORDER



ASHRAE Logo Merchandise

SHOP NOW



Chapter Supplies Order

BROWSE SUPPLIES

ashrae.org/marketingcentral

21

AHR Mexico







September 20-22, 2022
Guadalajara, Jalisco

ahexpomexico.com/en/

22

ASHRAE Topical Conferences



SEP
2022

2022 ASHRAE Building Performance Analysis Conference
Sep 14 – 16, 2022 | Chicago, IL

OCT
2022

International Building Decarbonization 2022 Conference
Oct 6-7, 2022 | Athens, Greece

OCT
2022

The Fifth International Conference on Efficient Building Design
Oct 20–21, 2022 | Beirut, Lebanon

DEC
2022

Buildings XV Conference
Dec 5–8, 2022 | Clearwater Beach, FL

MAR
2023

ASHRAE SCANVAC HVACC Cold Climate Conference 2023
Mar 6-8, 2023 | Anchorage, AK
Mar 9-10, 2023 | Fairbanks, AK

ashrae.org/conferences

23

2023 ASHRAE Winter Conference



**2023 ASHRAE Winter Conference
& AHR Expo**
February 4-8, 2023
Atlanta, GA

Registration opens in Fall 2022
ashrae.org/2023Winter

24



Thank you!
Questions or Comments?