**Environmental Health Committee**

**(EHC)**

**Reference Manual (version 2.1)**

(approved June 23, 2025)

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# History of EHC

The Environmental Health Committee (EHC) was established as a result of a number of issues that converged in the early 1980's. Up until then, environmental health issues were handled by Dr. Robert Horton, an ex- employee of the U.S. Environmental Protection Agency (EPA), who acted as a medical consultant on retainer to the ASHRAE Board of Directors. His resignation left a void in this area of expertise. Concurrently, indoor air quality (IAQ) concerns were growing in response to the increasing reports of building related illness and the resulting litigation. Concurrently, a number of other societies and associations started to lay “claim” to the IAQ issue. In reaction to these factors, then President Don Bahnfleth formed an Ad Hoc Committee under the leadership of Dr. Ralph Goldman to study the issue and provide guidance to the Society. Out of recommendations from that study came the formation of the EHC in 1985, created as a Standing Committee initially chaired by Dr. Goldman. The committee was to be made up of experts from areas outside the normal expertise of ASHRAE membership, such as public health, physiology, epidemiology, industrial hygiene and microbiology. The new body was to report to the Board through the newly formed Technology Council and was to act as a consultant to the Board on matters concerning health. Concurrently, President Bahnfleth initiated the first ASHRAE IAQ Conference convened in the spring of 1986, which was later assigned to the EHC as the cognizant committee.

The early years of the committee were challenging as the committee learned its role, gained acceptance by other groups within the Society, and learned how to deal with Society processes and procedures. The committee membership included some of the best-known and respected authorities on IAQ in the world. The eventual success of the committee effort is evident in that IAQ (once an “orphan” within ASHRAE) is now fully integrated into the program, research and technology outreach of the Society. IAQ and environmental health material are now in the ASHRAE Handbooks (and IEQ being incorporated), and the IAQ conference series (now the IEQ conference series since 2024) is one of the premier technical conferences in the industry. The Society has also maintained a leadership role on the HVAC side of indoor environmental issues.

The subject of IEQ (indoor environmental quality) versus IAQ was discussed at length by the committee post- COVID and the scope of EHC now encompasses IEQ to recognize the importance of other environmental metrics such as CO2 levels for cognition, lighting as it pertains to circadian rhythms and noise.

# EHC Scope

EHC identifies major environmental health trends impacting the practice of HVAC&R, informs and makes recommendations to ASHRAE leadership and membership. EHC also serves as a resource on activities and issues that relate to environmental health impacts of building control technologies.

# Operational Definition of Indoor Environmental Health

Preface:

Existing definitions of health and wellness are not operationally useful, i.e., not actionable from the perspective of ASHRAE mission and scope. Operational definitions, to the extent possible, should be based on causal, preferably quantifiable, relationships between desired effects and factors that influence them. As is stated in the ASHRAE Handbook (2021 Fundamentals), chapter 10 Indoor Environmental Health, “Indoor environmental health comprises those aspects of human health and disease that are determined by factors in the indoor environment. It also refers to the theory and practice of assessing and controlling factors in the indoor environment that can potentially affect health.” The following definition is intended to restate this definition in a way that is concise and operationally useful in ASHRAE standards, guidelines, policy documents, and as appropriate in other ASHRAE publications and programs.

Definition:

***Indoor Environmental Health is defined by health outcomes – physical, mental, and social - that can be assessed or quantified and that are related to values of controllable indoor environmental factors.***

# Acronyms and Abbreviations

DRSC Technology Council Document Review Subcommittee

EH Environmental Health

EIB Emerging Issue Briefs

ExCom Executive Committee

HVAC&R Heating, Ventilating, Air Conditioning, and Refrigerating

IAQ Indoor Air Quality

IEQ Indoor Environmental Quality

IEQ-GA IEQ Global Alliance <https://ieq-ga.net/>

MOP Manual of Procedures

MBO Management by Objective

PD Position Document

ROB Rules of the Board

Ref Man Reference Manual

RP Research Project

ResProp Research proposal

Tech Council Technology Council

TC Technical Committee

# EHC Subcommittees

The EHC Chair can create or disband subcommittees of EHC. They also determine the involvement of the EHC members on those subcommittees. All EHC members will serve on at least one subcommittee. Each subcommittee will have a Chair and Vice Chair. There are currently four (4) subcommittees for EHC:

* Policy
* Education
* Coordination and Outreach
* ExCom (Executive Committee)

Each subcommittee is charged with the following responsibilities and tasks, and recommended interaction between subcommittees is listed below. Additional detail on tasks can be found later in this reference manual and in the Appendix.

|  |  |  |  |
| --- | --- | --- | --- |
| Subcommittee  | Charge | Interaction between Subcommittees | Task Description |
| Policy | Identify major environmental health trends impacting HVAC&R | Ask all EHC to send ideas | Define “environmental health” and update as needed |
| Recommend new activities |   |  |
| Recommend policy documents that EHC should consider developing (EIB, PD, ResProp) |   | Brainstorm what should be researched and think about by whom |
| Position Document (PD) oversight | Submit ideas and final drafts for EHC approval; coordinate with ASHRAE staff to publish | Follow progress of PD development; recommend reissuance or revisions |
| Emerging Issue Briefs (EIB) oversight  | Submit ideas and final drafts for EHC approval; coordinate with ASHRAE staff to publish to EHC website | Develop the idea and the document  |
| Environmental Health Trends and Research Gaps |  | Drafts report for EHC approval annually; submits to Tech Council |
| Education | IEQ Column in ASHRAE Journal |   | Lead the coordination and publishing of IEQ column |
| Potential conference programs |   | Brainstorm programs; team with other Committees and TCs; review program proposals sponsored by other Committees or TCs |
| Handbook Chapter |   | Lead the update of the Handbook Fundamentals chapter “Indoor Environmental Health”, pull from Policy for new ideas. Work with other groups to review their chapters when appropriate (e.g., Climate Change) and ensure lack of conflict and limit repeat information (e.g., air contamination and cleaning chapters) |
| Research projects (RP) |  | Stay up to date on ASHRAE sponsored research projects which are of interest to EHC; prepare report-out for EHC (see also section on Technical Committee Reports) |
| Educational resources |   | Review proposals for technical presentations/seminars/webinars/courses which are of interest to EHC; recommend topics for development of educational resources |
| Update Infection Control Website |   | Update as needed, working with ASHRAE staff, SSPC 241 and other TCs to keep it up-to-date; suggest improvements to website to make it more user-friendly |
| Update Reference Manual |  | Review and revise regularly |
| Donald Bahnfleth Environmental Health Award  |  | Review nomination packages from ASHRAE staff; propose finalists for EHC vote; propose revisions for award processes (requires EHC approval) |
| Outreach and Coordination  | Interact with ASHRAE committees | Communicate regularly with Policy on EIB, PD, RP that are being updated or under development ; communicate regularly with Education on programs that are supported or under development  | Take the concepts from Policy and PDs to find leads for those items that we can help support internal and external to ASHRAE |
| Interact with outside organizations that impact EH or IEQ |   |  |
| IEQ-GA |   |  |
| RTAR review and new RP development with other groups | Communicate regularly with Education on progress of active ASHRAE sponsored RPs | Review RTARs to see if we want to support; take ResProp from Policy to other groups for them to lead |
|  Interface with SSPC 241 |   |  |
| ExCom | Develop report to Tech Council per MOP |   |  |
| Submit Long Range Plan for IEQ Conferences to Tech Council | See also Coordination and Outreach |  |
| Create MBOs that align with Strategic Plan |   | See Sec. 9 Suggested MBO format |
| Donald Bahnfleth Environmental Health Award  | Ask entire EHC to think of candidates | Try to find candidates for the Award, Promote the winner |
| Assign mentors to new members |   |  |
| Create EHC budget |   |  |
| Review ROB, MOP, and Ref Manual annually  |   | Initiate review and revisions as needed |

# Interested Parties

Staff shall compile and maintain an email list including past EHC members, meeting attendees, and any others who indicate an interest in receiving electronic updates on EHC meetings and activities. Staff shall update the list after each EHC meeting and offer individuals on the list an option to be removed from the list if they wish. Staff shall distribute draft meeting minutes, agenda, and other information deemed appropriate by EHC to this distribution list.

Additionally, staff will continue to maintain the EHC page of ASHRAE website to post past meeting minutes, current EHC procedures, and other information determined appropriate by EHC.

# EHC Documents

EHC is the cognizant committee over many documents that include a handbook chapter, guidelines, emerging issue briefs (EIB), position documents (PD), the IEQ Column in the ASHRAE Journal, and others.

## Handbook Chapter(s)

* Education leads the revision of the ASHRAE Fundamentals chapter “Indoor Environmental Health”.
* Education coordinates content in other chapters with IAQ and EH related content such as Global Climate Change, and Air Contaminants.
* Education coordinates content with other TCs.

## Special Publication(s), Standard(s) and Guideline(s)

* Indoor Air Quality Guide – Best Practice for Design, Construction, and Commissioning
* Residential Indoor Air Quality Guide –Best Practice for Home Design, Construction, Operation, and Maintenance
* Guideline 10 – Interactions Affecting the Achievement of Acceptable Indoor Environments
* Guideline 12 – Managing the Risk of Legionellosis Associated with Building Water Systems
	+ Co-cognizant with TC 3.6 and TC 6.6
	+ Find the latest version here <https://www.ashrae.org/technical-resources/standards-and-guidelines/guidance-for-water-system-risk-management>
* Standard 188 – Legionellosis: Risk Management for Building Water Systems
	+ Co-cognizant with TC 3.6 and TC 6.6
	+ Find the latest version here <https://www.ashrae.org/technical-resources/standards-and-guidelines/guidance-for-water-system-risk-management>
* Standard 241 – Control of Infectious Aerosols

## Emerging Issue Briefs (EIB)

These are one- or two-page description of issues that are the forefront of concern for the EHC and ASHRAE. EIB raise awareness on emerging issues of importance to the ASHRAE community. Topics considered for EIB should be new to ASHRAE and not already covered by other ASHRAE documents or committee work. EHC members can propose an EIB to EHC or the Policy Subcommittee for EHC approval. After approval, the Policy Subcommittee will form a committee to draft the EIB. Outside experts may be sought out. Final EIB are approved by EHC and do not need approval by the Tech Council Document Review Subcommittee (DRSC). Completed EIB are reported to Tech Council and published on the EHC website <https://www.ashrae.org/communities/committees/standing-committees/environmental-health-committee-ehc>. Archived EIBs are also on the EHC website.

## Position Documents (PD)

These are governed and approved by the DRSC and can be found here <https://www.ashrae.org/about/position-documents>. These are technical descriptions of issues and concerns of ASHRAE that indicate positions that ASHRAE takes with regards to the built environment. The process for initiating and submitting a PD is found in the Tech Council Ref Man <https://www.ashrae.org/File%20Library/Communities/Councils/Technology%20Council/Tech-Council-Reference-Manual-January-2014.pdf>.

EHC is the cognizant committee for the following PDs:

Combustion of Solid Fuels and Indoor Air Quality in Primarily Developing Countries

Indoor Air Quality

Indoor Carbon Dioxide

Environmental Tobacco Smoke

Filtration and Air Cleaning

Infectious Aerosols

Limiting Indoor Mold Growth and Dampness in Buildings Systems

Unvented Combustion Devices and Indoor Air Quality

It is the responsibility of the Policy Subcommittee to review and update these PD as needed (or propose new PD), with final versions published after EHC and DSRC, Tech Council, and ASHRAE Board of Directors approval.

## Technical Committee Reports

EHC should have (or assign) an active member in the following technical committees. The Education Subcommittee will prepare a report of activities quarterly, and report-out relevant highlights main EHC meetings. This information can also be shared with ASHRAE’s external partners.

TC 2.3 Gaseous Air Contaminants and Gas Contaminant Removal Equipment

TC 2.4 Particulate Air Contaminants and Particulate Contaminant Removal Equipment

TC 2.9 Ultraviolet Air and Surface Treatment

TC 3.6 Water Treatment

TC 6.6 Service Water Heating Systems

TC 9.6 Healthcare Facilities

# Donald Bahnfleth Environmental Health Award

Environmental Health Committee (EHC) Education Subcommittee will annually review all eligible nominations received and make a recommendations to EHC for its consideration prior to the ASHRAE Winter Meeting based on the following procedure.

1. Purpose. The purpose of the award is to recognize excellence in volunteer service focused on environmental health issues. It will serve to heighten general membership awareness of, and interest in, environmental health activities.

2. Award Presentation. Each year the Society recognizes the outstanding efforts of a single volunteer in the area of environmental health (EH) and indoor environmental quality (IEQ) activities. Nominations are solicited during the first half of the Society year. The EHC will select the recipient and notify the Honors and Awards Committee of its selection prior to the ASHRAE Winter Meeting.

3. Eligibility Requirements. The award is open to ASHRAE members and non-members who have demonstrated outstanding achievement in ASHRAE service focused on environmental health and IEQ issues. The recipient will be selected from nominations that meet a 10 point minimum requirement as outlined under Section 7 Criteria for Determining Eligibility. EHC Members are ineligible for receipt of the award during the term(s) they serve on EHC; however, their contributions while on EHC can count toward eligibility once they roll off as a member. Nominees should ensure their ASHRAE profiles are up to date and that activities in their profile under Participation fulfill the eligibility requirements.

4. Judging. Nominations are submitted to ASHRAE staff, who will confirm that the nominees meet the award qualifications. Qualified candidates are submitted to the EHC Education Subcommittee, who will determine the top two candidates by the following procedure: (1) each Subcommittee member assigns a mark 0 to 5 for each candidate (0=lowest; 5=highest); (2) the marks will be tallied. In case of a tie, the candidate with the most points according to Section 7 Criteria for Determining Eligibility will have the higher mark; (3) Education Subcommittee Chair will forward the names of the two candidates to the Chair of EHC; (4) the full EHC Committee will vote on a winner. In case of a tie, the candidate with the most points according to Section 7 Criteria for Determining Eligibility will have the higher mark. If necessary, at the discretion of the Education Subcommittee, candidates from the previous year not selected maybe brought forward for award consideration. The award may be unawarded if an eligible candidate is not identified.

5. Presentation. The award is presented during the Honors and Awards portion of the Plenary Session at the ASHRAE Annual Meeting. A certificate is presented to the recipient by the ASHRAE President.

6. Application. A nomination for the award must include a cover letter outlining the nominee’s environmental health and IEQ activities in ASHRAE to be limited to one page. t Both this cover letter and Criteria for Determining Eligibility tally will be provided to the EHC Education Subcommittee to propose two candidates for EHC for final selection of a single winner.

7. Criteria for Determining Eligibility. A candidate must meet a 10 point minimum in the following categories:

1. ASHRAE activities

|  |  |
| --- | --- |
| 1. Chair of an ASHRAE sponsored environmental health program1
 | 2 points / program |
| 1. Presenting at an ASHRAE sponsored environmental health program1
 | 1 point / program |
| 1. Chair of a Position Document (PD) or Emerging Issue Briefs (EIB) Committee
 | 2 points / PD or EIB |
| 1. Member of a PD or EIB Committee
 | 1 point / PD or EIB |
| 1. Lead editor or author of a handbook chapter related to EH or IEQ
 | 1 point / chapter2  |
| 1. Chair of a Standard or Guideline PC related to EH or IEQ
 | 2 points / PC2 |
| 1. Member of a Standard or Guideline project committee (PC) related to EH or IEQ
 | 1 point / PC2 |
| 1. Service on an ASHRAE event committee that enhances the EH or IEQ of an ASHRAE sponsored event
 | 1 point/committee3 |
| 1. Lead on an ASHRAE event committee that enhances the EH or IEQ of an ASHRAE sponsored event
 | 2 point/committee3 |

1. IAQ/IEQ Conference experience
2. Chair of an IAQ/IEQ conference 2 points / conference
3. Member of an organizing committee 1 point / conference
4. Presentation at the conference 1 point / conference

C. Environmental Health Committee Experience

1. Chair of the Environmental Health Committee 3 points / tour4
2. Subcommittee Chair or Vice Chair 2 points / tour4
3. Member 1 point / tour4

1 ASHRAE sponsored environmental health programs are broadly defined as programs at ASHRAE sponsored events and conferences that promote EH and IEQ

2 PC equates to an appointed term. List of eligible Standard and Guideline Project Committees:

* Standards 55, 62.1, 62.2, 170, 188 and 241
* Guidelines 10, 12 and 42
* Indoor Air Quality Guide
* Residential Indoor Air Quality Guide

3 Committee activities that enhance the EH or IEQ of an ASHRAE sponsored event include providing air cleaners in meeting rooms, offering lanyards of different colors to indicate level of personal interaction and similar offerings

4 “Tour” refers to an appointed term

9. Sample Letter Ballot

Re: Donald Bahnfleth EHC Award

Please find attached the letters of nomination, point/eligibility summary, and ASHRAE biographies for the eligible candidates for the Donald Bahnfleth EHC Award. The nominators and candidates respectively are:

* Candidate 1 – Nominator 1
* Candidate 2 – Nominator 2
* Etc.

EHC’s recommendation must be approved by Honors and Awards (H&A) at the Winter Meeting so the award can be presented at the Annual Meeting. This e-mail ballot ensures that our recommendation can be approved by H&A in a timely fashion. If you have any questions on the candidates, please e-mail the Chair of the EHC Education Subcommittee.

Please vote for your selection. I would appreciate your e-mail response, prior to 12:00 AM EST, {insert date}. EHC recommendation of the winner will be based on the candidate who receives the most votes.

# Mentoring Program

During the final meeting of the Fiscal Year, the EHC Chair shall appoint an incumbent to be the mentor for an incoming member. A mentor should be appointed for each new member. The mentor will be responsible for the following tasks:

* Before the next EHC meeting, the mentor should contact the new member email to introduce themselves and explain the new relationship and its purpose.
* The mentor should make every effort to update the new member on:
1. EHC functions, focus and objectives.
2. Review the Rules of the Board (ROB) and Manual of Procedures (MOP) with the new member.
3. Discuss the typical meeting format and member duties and responsibilities.
* The mentor should plan to meet the new member before the respective meeting is scheduled to start and introduce them to the chair and early arriving members. The mentor should also introduce the new member with pertinent data such as:
1. Member’s field of expertise and employer
2. Chapter and city of the new member
3. Former chapter, region and Society positions previously held by the new member
* The new member will be sent a copy of the group Rules of the Board (ROB), Manual of Procedures (MOP) and a copy of the most recent meeting minutes to acquaint them with the function and focus of the group. The new member should be encouraged to develop a rapport with other members to effectively work with fellow members to maximize productivity.

The EHC chair shall have the following responsibilities:

1. Assign a mentor to each incoming new member of the group prior to the first meeting.
2. Assure that the time allotted at the beginning of the first meeting is sufficient for proper introduction of the new member by the assigned mentor.
3. Assess at a later meeting the effectiveness of the mentor/new member relationship.
4. Provide any assistance to enhance the mentor/new member relationship.

Completion date: The relationship terminates at the end of the new member’s first year in the group.

# Suggested MBO format

**OBJECTIVES**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Committee

Chairman: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Society Year: 200\_\_\_\_- 200\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Objective** | **Planned Completion****Date**  | **Fiscal Impact**  | **Responsibility**  | **Program Approved** | **Cost Budgeted** | **Status** |
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∙ List objectives, not action items or ongoing committee activities such as updating the committee’s MOP.

∙ State objectives in clear, concise, measurable language. If necessary, cite sub-tasks and interim steps as a means of measuring objective completion.

∙ Cite both the completion date for the overall objective as well as individual sub-tasks.

∙ State fiscal impact in dollars, person-hours, or person-trips. State whether the program has been approved by the council and whether its cost has been included in the budget.

∙ State the primary responsible individual, subcommittee, or body.

∙ Report a brief but complete statement of status. Cite completion date if objective is fulfilled.

# Guidelines for Proposing Changes to Rules of the Board (ROB)

ROB 3.400, Manual of Procedures for Officers and Directors, Section 10.3:

10.3 RULES OF THE BOARD

 10.3.1 Rules of the ASHRAE Board of Directors, authorized by Bylaws Section 4.3, are compiled annually by the staff of the Society from actions of the Board.

 10.3.2 Rules of the Board are contained in the following five volumes:

 Volume 1 – Principles, Policies, Position Statements

 Volume 2 – Standing Rules for Board, Councils, Committees

 Volume 3 – Manuals and Procedures

 Volume 4 – Sunset Rules and Interpretations

 Volume 5 – Archives

 10.3.3 Changes to Rules of the Board - Proposed changes (additions and deletions) to Rules of the Board (ROBs) shall be submitted by committees, councils and Board members. Changes proposed by a committee shall be submitted through the body to which it reports; councils and Board members may submit proposed changes directly to the Board of Directors.

 10.3.3.1 To propose a change to an existing ROB, present the current ROB with changes marked by double underlining to designate words proposed to be added and ~~strikethrough~~ to designate words proposed to be deleted. A proposed change, as a minimum, shall include the complete ROB number (e.g., 2.106.001.2), the proposed change(s) marked as indicated above, and the reason(s) for the change(s).

 10.3.3.2 To propose a new ROB, present the wording for the new rule and include a statement indicating a recommended placement of the new rule within the ROB organization. Examples:

 *It is recommended that this rule be placed in ROB Volume 1, Policies.*

 *It is recommended that this rule be placed in ROB Volume 2, Publishing and Education Council.*

 10.3.3.3 To propose rescinding an existing ROB, include in the recommendation the ROB volume in which the rule is located, the rule number or other identification code, and the wording of the rule to be rescinded.

# Appendix: Long-Range plan for Indoor Environmental Quality Conferences

Under development

# Log of revisions

|  |  |
| --- | --- |
| **Version number** | **Major revisions** |
| 2.0 (approved February 10, 2025) | * Addition of the following sections
	+ Sec. 2 EHC Scope
	+ Sec. 6.5 Technical Committee Reports
	+ Appendix: Long-Range plan for Indoor Environmental Quality Conferences
	+ Log of revisions
* Clarification and charges added to Sec. 4 EHC Subcommittees
* Removal of information that is regularly updated such as the list of EIBs; replaced with live links to ASHRAE
* Revisions to Donald Bahnfleth Environmental Health Award eligibility criteria and selection process
 |
| 2.1 (approved June 10, 2025) | * Insert new Section 3:
	+ Operational Definition of Indoor Environmental Health
 |