

MINUTES

Handbook Committee Meeting

June 29, 2003
Westin Crown Center
Kansas City, MO

MEMBERS

Ken Cooper, Chair and 2003 *Applications* Chair
Charles Francis, 2003 *Applications*
Brian Rock, 2003 *Applications*
Derald Welles, 2003 *Applications*
Lynn Werman, 2004 *Systems* Chair
Prakash Damshala, 2004 *Systems*
Ron Davis, 2004 *Systems*
David Underwood, 2005 *Fundamentals* Chair
Lane Jackins, 2005 *Fundamentals*
John Wells, 2005 *Fundamentals*
Bill Fleming, 2005 *Fundamentals*
George Carscallen, 2005 *Fundamentals*
Cesare Joppolo, 2005 *Fundamentals*
Norm Maxwell, 2006 *Refrigeration* Chair
Brian Krafthefer, 2006 *Refrigeration*
Tino Mendez, 2006 *Refrigeration*
Bill McCartney, 2006 *Refrigeration*
Rich Evans, 2006 *Refrigeration*

Benjamin Sun, 2006 *Refrigeration*
Julian de Bullet, Coordinating Officer
Max Sherman, BOD Ex-Officio
Mark Owen, ASHRAE staff liaison

VISITORS

Hugh Crowther, Board Planning Committee
Terry Townsend, 03-04 Coordinating Officer
Lawrence Spielvogel, 03-04 BOD Ex-Officio
Harvey Brickman, 2007 *Applications*
Kay Thrasher, 2007 *Applications*
Steve Ivesdal, Member Council Chair
Dennis Wessel, Publishing Council
Susan Morrison, TC 9.11 Handbook Chair*
John Carter, TC 4.3 Handbook Chair*
Mike Pouchak, TC 1.4
Steve Comstock, ASHRAE staff

* incoming

INDEX OF MAJOR PASSED MOTIONS

- | No. | Motion |
|------------|---|
| 2A | To accept the revised <i>Authors and Revisers Guide</i> provided that the reference policy is changed to require that unpublished references that are not available in the general literature, as well as printouts of material referenced from web pages, be submitted to ASHRAE headquarters by the responsible TC along with any permissions necessary to do so. |
| 3 | To create a training program for new Handbook Committee members and present it at Annual Meetings beginning in June 2004. |
| 4 | To hold a forum at the Winter Meeting in Anaheim in January 2004 for public/member comments on the most recent Handbook volume. |

INDEX OF ACTION ITEMS

- | No. | Responsibility | Action Item |
|------------|--|---|
| 1 | Training Subcommittee | Develop presentation and materials for training program for new committee members to be presented at each Annual Meeting. |
| 2 | Owen | Send assignments and instructions to committee members for review of 2003 <i>HVAC Applications</i> chapters. |
| 3 | Krafthefer, Jackins, Thrasher, Maxwell | Pursue arrangements for forum on Handbook comments at Winter Meeting in Anaheim, January 2004 |

Call to Order

Mr. Cooper called the meeting to order at 9:01 a.m.

Introduction of Members and Visitors

Mr. Cooper welcomed all attendees. Members and visitors introduced themselves.

Approval of Minutes

It was moved and seconded:

- (1) To approve the minutes of the committee's January 26, 2003, meeting in Chicago.**

MOTION (1) PASSED, approved by voice vote

Chairman's Comments

Mr. Cooper reported that at the January 2003 meeting Publishing Council had approved (with slight modification) the Dispute Resolution procedure proposed for the Handbook Committee Manual of Procedures (MOP). Publishing Council also approved the Strategic Plan Objectives submitted by Handbook, with action elements to be added by the committee for subsequent consideration by the council. Also in January, the council voted to delay until 2005 implementing the four-volume HandbookCD as member benefit, pending comments from other councils and members.

Ms. Thrasher noted that PE examinations do not allow applicants to use electronic media in taking the test, but do allow printed material. Ms. Morrison mentioned that the two-column format on the HandbookCD is difficult to read onscreen.

Mr. Sherman indicated that the Board would be reconsidering its approval of the new member benefit at this Annual Meeting. *[Editor's Note: Later in the day, the Board subsequently rescinded its approval of the four-volume HandbookCD as member benefit]*

The chair asked members who would like a letter of thanks to be sent to their employers to add their names and other requested information to the form circulating the meeting room.

Members were reminded that a detailed Handbook chapter development schedule called "Desired Status of ASHRAE Handbook Chapters" may be downloaded from the ASHRAE web site (Handbook shortcut from the homepage/Handbook Activities and Programs-Committee Participation/Handbook Chapter Revision Schedule). This document now also lists AHR numbers and is useful for liaisons to use in guiding their TCs.

The chair reported that a TAC/Handbook Excom meeting will take place Sunday evening at 6:00 p.m. to explore how Handbook and TAC can meet and work together on a regular basis.

Board Ex-Officio (BOD ExO) Report

Mr. Sherman informed the committee on highlights of ASHRAE President-Elect Richard Rooley's top ten list of "to do" items, at the top of which is a plan for society reorganization to make better use of members' time and resources and to better serve member needs. Mr. Sherman advised that the Handbook Committee should examine how it will interact in the new structure. Other items on the list include (1) development or strengthening of relationships with worldwide organizations, (2) building on ASHRAE's technical and social strengths, and (3) reemphasizing ASHRAE's global involvement.

Mr. Damshala remarked that it is good to broaden our global perspective, for example, addressing new technology such as advanced systems being used in Japan and other parts of Asia.

Coordinating Officer (CO) Report

Mr. de Bullet emphasized the willingness of Publishing Council to respond with help if the committee indicates it is needed to accomplish its mission. Mr. Townsend, incoming CO and chair of Publishing Council, stated that he is counting on the committee to help the Society serve its customers, and that he is open to comments and suggestions on how best to achieve that aim.

Mr. Wessel, past committee chair and present Publishing Council member, stated that he has been asked to sit in on the committee meetings as part of his work for the Functional Planning subcommittee of the council.

Board Planning Committee (BPC) Liaison Report

Mr. Crowther explained his presence to facilitate the committee's work regarding the Board's goal-generating process, in which goals are identified by the BPC in conjunction with the committees, approved by the Board, and given back to the committees to implement.

Revision of *Author and Reviser Guide*

Mr. Rock presented the result of the efforts by the revision subcommittee (Mr. Rock , Mr. Jackins, Mr. Krafthefer, Mr. Manczyk, Ms. Amalfitano, with Mr. Owen) to produce a draft updating and expanding the *Authors and Revisers Guide (Attachment A)*. In addition to copies of the draft, Mr. Rock also distributed comments received from Mr. Spielvogel (*Attachment B*) relevant to the revision.

It was moved by Mr. Rock and seconded

(2) To accept the revised *Authors and Revisers Guide* as submitted by the subcommittee.

Mr. Rock noted the comments received from Mr. Spielvogel and others regarding the reference policy on availability, web references, and requiring submission of references to headquarters. Mr. Rock also noted that copyright restrictions and purchase cost limitations are practical factors that influence the scope of submission requirements.

Mr. Sherman pointed out the responsibility of TCs per the BAR to provide the best information possible, and that the Handbook should include all references deemed necessary to fulfill that duty. Mr. Sherman also suggested that MOP and BAR excerpts be identified by number in the *Guide*, and reminded the committee that those excerpts should not be modified.

Mr. Joppolo suggested that the policy address the language(s) in which references are available.

A friendly amendment was accepted to modify Motion 2 as follows:

- (2A) To accept the revised *Authors and Revisers Guide* provided that the reference policy is changed to require that unpublished references that are not available in the general literature, as well as printouts of material referenced from web pages, be submitted to ASHRAE headquarters by the responsible TC along with any permissions necessary to do so.**

MOTION (2A) PASSED, 17-0-1, Chair Not Voting (CNV)

Volume Subcommittee Reports

2003 HVAC Applications

Mr. Cooper reported that the 2003 *HVAC Applications* volume has been published in print and single-volume HandbookCD and that members should have them by now. Review assignments will be forthcoming.

2004 HVAC Systems and Equipment

Mr. Werman reported many late chapters, with many TCs trying to respond to comments from Past President Bill Coad's review comments. Efforts are to be made at this Annual Meeting to obtain the delinquent submissions.

2005 Fundamentals

Mr. Underwood reported that the subcommittee has conducted a special review of 2001 chapters; many TCs are on track to incorporate review comments.

2006 Refrigeration

Mr. Maxwell reported TC contacts and revisions under way.

2007 HVAC Applications

Mr. Rock, incoming volume subcommittee chair, reported that the 2007 *HVAC Applications* subcommittee is getting organized to conduct reviews and liaison activities.

Subcommittee Reports

Electronic Enhancements

Mr. Underwood requested clarification on the general direction from the committee regarding diverging print and electronic Handbook formats; TC 4.1 has requested that Mr. Fleming advise them regarding inclusion of RTS or other spreadsheets and a calculation program related to RP-1117 in their chapter for the HandbookCD.

Mr. Cooper reported that Mr. Comstock has previously indicated that Special Publications has the "first rights" to results of ASHRAE Research Projects, but that items not able to stand on their own as special publications would be good candidates for enhancements. Mr. Sherman stated that the committee can ask Publishing Council to "give" any material to the Handbook instead of Special Publications.

Ms. Morrison commented that Excel spreadsheets should be “locked down” to prevent tampering.

After discussion, Mr. Fleming said he would tell TC 4.1 that (1) spreadsheets would be acceptable if validated by the TC and secured against tampering, and (2) if the TC decides it would like to include RP-1117 material and/or weather data, then the Handbook Committee could pursue (with Publishing Council) any necessary releases from Special Publications.

Training

Mr. Werman explained background on the history of training in the committee, and indicated that the revised *Authors and Revisers Guide* would be used as a basis for training.

It was moved by Mr. Werman and seconded

- (3) To create a training program for new committee members to be presented at each Annual Meeting.**

MOTION (3) PASSED, approved by voice vote

Mr. Cooper assigned the task to the Training Subcommittee (**ACTION ITEM #1**).

Strategic Planning

Mr. Cooper directed attention to the Handbook Committee SPO Action Plan Outline (*Attachment C*), which he indicated would undergo further development by the subcommittee at the October meeting.

Subcommittee Assignments for 2003-2004

Mr. Cooper explained each subcommittee’s function and invited members to contact him with questions or concerns about individual assignments (*Attachment D*):

<u>Subcommittee</u>	<u>Function</u>
Guide/Review	Maintain the <i>Authors and Revisers Guide</i>
Training	Develop training curriculum and conduct training sessions
Electronic Enhancements	Continuing work with TCs/staff to develop eBook
Strategic Planning	Ongoing planning and tracking of objectives, status
Publicity	Help generate interest in participation in Handbook process

Information Items

Year 2002/2003 MBO Status

Mr. Cooper presented the status of the 2002/2003 MBOs (*Attachment E*).

Year 2003/2004 MBOs

Mr. Cooper presented MBOs for 2003/2004 (*Attachment F*).

Action Items

Mr. Cooper directed members to the minutes of the January 2003 meeting, noting that the action items listed there have been completed, with the exception of the training program, which is still under development.

TC Chairs Meeting Assignment

Mr. Cooper noted that TAC has requested a single-page summary of Handbook information instead of a live speaker for the Monday morning meeting. Mr. Owen and Mr. Cooper will produce the summary and Mr. Owen will provide copies (one per person) by late afternoon Sunday for Handbook liaisons to use in visiting TCs.

Old Business

Update on Four-Volume Handbook CD Member Benefit

(See the previous discussion under Chairman's Comments on pp. 2-3)

New Business

October 2003 Meeting

Mr. Cooper noted that the committee will hold its October meeting in conjunction with Tech Weekend at headquarters in Atlanta, in an effort to improve contact and coordination with TAC on Handbook issues. Attendees will be notified, and will include ExCom (chair and volume subcommittee chairs) and Strategic Planning and Electronic Enhancements subcommittees.

2003 HVAC Applications Chapters Review

Mr. Rock has assigned 2007 volume subcommittee members to review their TCs' chapters and report to him. The rest of the full committee will also be assigned 2003 Applications chapters to review. Mr. Owen will send assignments and instructions later this summer (**ACTION ITEM #2**).

Forum for Handbook Comments: Anaheim 2004

It was moved by Mr. Krafthefer and seconded

(4) To hold a forum for comment on the Handbook at the 2004 Winter Meeting in Anaheim.

Discussion focused on whether the scope of the forum should include all volumes or a single volume.

MOTION (4) PASSED, approved by voice vote

Mr. Brickman suggested that questions for the forum might address topics such as the arrangement of subject matter in the volumes, and the whether the volumes should differ in style and presentation (e.g., *Fundamentals* is “fact-heavy” and *Applications* more anecdotal).

Mr. Krafthefer will pursue arrangements for the forum and the chair assigned Mr. Jackins, Ms. Thrasher, and Mr. Maxwell to assist (**ACTION ITEM #3**).

Chair for 2003-2004

Mr. Cooper thanked those who are rotating off the committee for their efforts and noted that he will be returning as chair for the 2003-2004 Society year and looks forward to working with everyone again.

Adjournment

The meeting was adjourned at 12:01 p.m.

Respectfully submitted,

Mark S. Owen
Handbook Editor

~~ASHRAE Handbook~~

Authors and Revisers Guide

ASHRAE Handbook

January 2001 July 2003

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1.0 PHILOSOPHY

The ASHRAE Handbook is the recognized ~~authority on depository of~~ current engineering procedures and practices in the fields of heating, ~~ventilation, refrigeration,~~ air-conditioning, and ~~ventilation refrigeration (HVAC&R).~~ The Society publishes the ~~H~~handbook primarily to provide technical information and data for the design engineer. The information is directed at those who understand engineering principles and use the information as a checklist of procedures, for design data, and to review current industry practices. Typical users include consulting engineers, ~~equipment designers, design engineers,~~ plant engineers, contractors, ~~technicians,~~ and engineering students.

~~The Handbooks does~~ not, however, list all possible calculation methods, all possible equipment choices, or all possible design solutions. ~~Specific design solutions~~ must always result from the experience and expertise of the ~~design~~ engineer after considering economics, owner preferences, local practice, climatic conditions, maintenance and operating costs, ~~and or~~ other applicable factors. ~~As such, the material contained in the Handbooks is to be used as guidance for the practicing engineer, andbut~~ cannot substitute for the judgment of the engineer.

1.1 Commercialism

~~The ASHRAE Handbook's scope includes all aspects of HVAC&R technology. As such, differing technologies are to be presented accurately in the Handbook and in accordance with the Society's commercialism policy. Materials prepared for publication in the Handbook must be written and critically reviewed by the responsible Technical Committee (TC), Task Group (TG), or Technical Resource Group (TRG) to ensure that it is free of bias.~~

This Guide is produced and updated by the Society Handbook Committee and the Handbook Editor. Questions regarding this Guide and preparation of Handbook chapters should be directed to the Handbook Committee Liaisons listed in the TC/TG/TRG rosters.

2.0 ADMINISTRATIVE ORGANIZATION

Many groups and individuals within ASHRAE participate in the Handbook's production. The following is the division of responsibilities; for further information read each group's Board-Approved Rules (BAR) and Manual of Procedures (MOP):

Publishing Council – *policy, publishing decisions, financial matters*

Handbook Editor and Staff – *preparation and publication of the Handbook*

Editor: Mark S. Owen, mowen@ashrae.org, (404) 636-8400 x1187

Editorial Staff

Handbook Committee – *policy, publishing decisions, scheduling, coordination, communications*

Chair

Volume Subcommittees (4)

Subcommittee Chairs

Members/Liaisons to Technical Committees, *listed on TC/TG/TRG rosters*

Technical Committees/TGs/TRGs – *prepare and revise chapters*

Handbook Subcommittee

Subcommittee Chair

Chapter Reviewers

Chapter Lead Author/Reviser and other authors/revisers

3.0 CONTENT

The ASHRAE Handbook series includes four separate printed and compact disk (CD) volumes, currently entitled *Fundamentals, Refrigeration, HVAC Applications, and HVAC Systems and Equipment*. One volume is published each year in two editions, one using Inch-Pound (I-P) units of measurement and the other using the International System of Units (SI). A four-volume CD, known as the *eBook*, is also distributed each year and includes the most current volumes and chapter updates. -The volume sequence is as follows:

3.1 Fundamentals

Fundamentals chapters provide concise descriptions for the basic engineering principles used in the HVAC&R industry. Lengthy derivations ~~should not be included except by reference~~ are not found here. Chapters should address current design information useful to the practicing engineer. They address principles of operation and the effect of design parameter changes.

Fundamentals chapters may also provide basic data used in HVAC&R calculations and processes. Tables and graphs are available for the design engineer. The Fundamentals volume is also often used as a reference in HVAC&R engineering courses.

~~These chapters address current design information useful to the practicing engineer. They address principles of operation and the effect of design parameter changes.~~

3.2 Refrigeration

Refrigeration chapters cover the various types of equipment and systems used in [low and medium temperature refrigeration](#) applications in the food industry, the process industry, and in industrial facilities. [They do not typically cover human thermal comfort applications.](#)

Refrigeration chapters may also include basic data, such as properties of foodstuffs, and calculations [particular peculiar](#) to the refrigeration industry. Such information would not normally be found in one of the other volumes although references to common procedures [that appear elsewhere in the Handbook](#) should be used whenever applicable.

3.3 HVAC Applications

Applications chapters provide information to help the design engineer use the equipment and systems described in [the other volumes/handbooks](#). Applications chapters describe how equipment should be used and what to consider when designing for the application being described. The information helps the system designer select and use equipment properly. It does not describe how to design components or equipment.

~~These chapters describe the use of heating, air conditioning, and ventilating equipment and systems to provide desired conditions. They address principles of operation and the effect of design parameter changes.~~

3.4 HVAC Systems and Equipment

System-oriented chapters cover the various common systems and illustrate features and differences. They refer to other chapters [or volumes](#) for basic design procedures.

Equipment-oriented sections or chapters cover components or assemblies. The information helps the system designer select and operate equipment. [They It does](#) not describe how to design components.

~~These chapters survey available equipment and describe its operation and construction features. They address principles of operation and the effect of design parameter changes.~~

4.0 PROPOSING A NEW CHAPTER

[Before writing a potential new chapter first review existing and previous volumes' chapters for duplicate materials. Determine if any other chapters or sections should be moved to your proposed chapter. Then prepare a one-page chapter proposal that includes key information like the chapter title, potential Handbook volume, your name, potential co-authors and reviewers, justification, and an outline. Next, identify the most relevant TC for the topic and present your proposal to its Handbook Subcommittee, and if approved, to the full TC. If approved by the TC, forward the proposal to the Handbook Committee Liaison for that TC. The Liaison will then present your idea to the full Handbook Committee, but you may be asked to assist in the presentation and to answer questions. The Liaison will then give you and the TC guidance on whether to proceed with writing the chapter, and when and in which volume the potential chapter will likely appear, for example.](#)

[After Society Handbook Committee approval of the proposal write the chapter. The full manuscript then requires a detailed review, editing, and recorded approval votes by the TC Handbook Subcommittee and the full TC. The completed manuscript and supporting materials are then sent to the Liaison who reviews it and either approves it or sends it back to the TC for revision. If approved, the Liaison sends the manuscript to the Handbook Editor for preparation and publication. Be sure to follow the other relevant parts of this Guide and observe deadlines to make approval and publication of your new chapter as swift as possible.](#)

5.0 DELETING A SECTION OR CHAPTER

Material that is still relevant, even if only important to a small segment of the Society, should continue to appear in the Handbook. But because the Handbook is a lasting reference, republishing obsolete information is unnecessary. Instead, refer readers to older volumes of the Handbook. If some material is deemed important but not appropriate, or too voluminous for the Handbook, consider preparing a separate special publication where readers can find the information.

Chapter sections may be deleted through the normal revision process. To delete an entire chapter, have a recorded vote in the responsible Handbook Subcommittee and then the full TC. Next forward the recommendation to the Society Handbook Committee via your Liaison.

6.0 REVISION PROCEDURE

The **reviewers** and **revisers** of Handbook chapters establish the scope of the chapter and organize the material. Working with the appropriate Technical Committees, ~~and/or~~ Task Groups, or Technical Resource Group, they develop the philosophy and content of the individual chapters following the Chapter Outlines ~~starting on page 8 presented in Sections 9 and 10 of this Guide. Chapters should follow one of the categories described by these outlines.~~ It is important to follow these outlines for consistency and ease of use by the reader.

Although the Society Handbook Committee is responsible for the publication and editorial policy of the Handbook, Technical Committees, ~~and~~ Task Groups, and Technical Resource Groups write, review, and revise the chapters. The Manual of Procedures for Technical Committees, Task Groups, and Technical Resource Groups Committees states:

“Each TC/TG/TRG is charged with the responsibility of preparing and reviewing Handbook ~~C~~chapters within its field of interest and making appropriate recommendations to the Handbook Committee. The TC/TG/TRG is responsible for the technical content of these chapters, but review and revision must be coordinated with the publication schedule established by the Handbook Committee.”

(Para. 3.2.1)

It is the responsibility of every TC/TG/TRG member to participate in the review of the chapters. TCs/TGs/TRGs should devote significant meeting time to discussing the purpose, content, and revision of their chapters.

Your Handbook Committee Liaison members may can assist you in finding individuals or groups to write and revise chapters. The Handbook Committee liaison Liaison works with the revising subcommittee to transmit comments, criticism, and suggestions so the chapter, when complete, reflects current practice. Handbook eCommittee liaison Liaisons also provide the connection between the revising TC/TG/TRG subcommittee and the eEditor, and are charged with einsuring that the approved chapters are submitted according to schedule.

6.1 Typical Four-Year Revision Schedule

Each chapter is to be given a detailed review and have necessary revisions made at least every four years. In addition, updates can be made annually for inclusion in the next year's eBook. The following, however, is a summary of a typical four-year revision schedule. Each year is approximately July 1 to June 30:

Summer of Year 0: The chapter is published in the printed Handbook volume and the eBook.

Year 1: The TC/TG/TRG Chair appoints a Handbook Subcommittee and its Chair. A meeting time is established and the Subcommittee then meets at every Annual and Winter meeting. The Subcommittee and others review the just-published chapter and make recommendations for its revision. A lead author/reviser for the chapter is selected.

Year 2: The lead author/reviser and others revise the chapter.

Year 3: The near-complete draft is reviewed by all members of the Subcommittee, and then the TC. After any changes are made, the Subcommittee Chair requests a recorded approval vote by the full TC. When approved, the lead author/reviser completes the Chapter Approval Checklist and submits the revision and supporting materials to the TC's assigned Handbook Committee Liaison before the required deadline.

Year 4: The Handbook Editor and Staff prepare the chapter for publication and send a proof to the TC's designated reviewer. After any final edits are made, the chapter is complete. At the end of the fourth year, the revision is published and the process begins anew.

6.2 Chapter Review

~~Handbook chapters receive both a review and a revision. A suggested revision schedule for each chapter is available on the ASHRAE web site (www.ashrae.org). The authoring or revising committee reviews its assigned chapter(s) within six months of publication. (See Chapter Review Checklist on p. 8) The committees plan the next revision during this period. For each chapter, the TC Handbook subcommittee chair~~ selects one or more reviewers to

1. Check for errors that should be noted in the errata published with the next Handbook volume and on the ASHRAE web site (www.ashrae.org), and corrected in the next eBook edition.
2. Recommend whether the chapter should be continued and or what major revisions should be made, if any.
3. Suggest reviser(s) for the chapter.

A checklist of review questions ~~is included on page 8~~ appears in Section 8 of this Guide.

The Handbook Committee ~~liaison~~ Liaison for the ~~chapter~~ TC/TG/TRG may also send the chapter to ~~other~~ external reviewers for comment. The results will be made available to the TC Handbook subcommittee chair.

6.3 Chapter Revision

After the chapter review, the TC begins the next revision cycle, which lasts up to two years. The lead reviser normally sends interim drafts revisions to various reviewers for their comments, and may send copies to the Handbook Committee liaison and editor. ~~After the draft is finalized,~~ The chapter then receives TC approval via a recorded vote and is sent to the Handbook Committee ~~liaison~~ Liaison ~~between January and July of the year before publication~~ according to the schedule ~~set up~~ established by the Editor.

6.4 Reviser's and TC's Responsibility

Material prepared for possible use in the Handbook is not to be released for publication outside ASHRAE, nor is material used elsewhere to be reprinted in the Handbook without proper review, permission, and referencing. Any questions regarding this should be discussed with the Handbook Committee ~~liaison~~ Liaison and/or the ~~staff~~ Handbook eEditor.

6.5 General Revision Guidelines

- The audience is expected to have a secondary college degree or equivalent experience, probably technical; however, they will not ~~in~~ generally have expertise in the chapter material.

- Carefully consider and explain the use of and definitions for jargon, if required.
- Include accepted engineering practice and current information, [including new technologies](#). Place the highest priority on comprehensive technical information and good [design](#) practices.
- Design data and procedures should be as simple and easy to use as possible. They [procedures](#) should be appropriate for the accuracy of data available at the point in the design process. More complex procedures should be included only if the increase in accuracy is significant enough to justify the additional effort. Reference to other sources of information may be more appropriate.
- Chapters in the *Applications*, *Refrigeration*, and *Systems and Equipment* volumes should not contain derivations of equations or discussions of the research process behind the data. The [cited](#) references should include this information, if needed. Derivations for equations in the *Fundamentals* volume should be concise. References to other publications should be used when possible.
- Check for clarity and conciseness. Wordiness makes a chapter harder to read and understand. [Simple figures can often replace or reduce lengthy discussions](#).
- Eliminate sales promotion, market data, and [unnecessary](#) historical background from the text. Delete references to these materials from the reference list.
- Refer to material in other chapters when possible to avoid duplication. Check the *Fundamentals* chapters for basic information. If the information is not complete, coordinate with [the its](#) responsible TC/TG/TRG to develop the information instead of duplicating it in your chapter. [Check older versions of your chapter for deleted material that is again relevant](#).
- Identify codes and standards related to the chapter; however, the [hH](#)Handbook is not a code. Information that disagrees with existing codes and standards should be noted.

6.6 Reference Policy

[The purpose of references in the Handbook is to acknowledge the work of others and to allow the reader to find further information.](#) Authors and revisers should review all references in the chapters they prepare or revise. References should be relevant, substantive, and current, or of significant historical importance. References [must be published and readily available in the literature.](#) [Follow the referencing style presented in Section 7.5 of this Guide.](#) ~~should support the procedures, data, etc. that appear in each section of the chapter. References more than 20 years old should not be cited unless the information is not available in more recent publications.~~

~~Revisers or the sponsoring TC should include copies of references with chapter manuscripts submitted for publication. References include technical papers, articles, and pertinent excerpts and bibliographical data (title page, copyright page, and table of contents) from books or reports. ASHRAE references and other trade and professional association publications and standards do not need to be submitted.~~

~~The staff Handbook editor will remove from chapters any mention of references not submitted.~~

~~Headquarters staff will file the references. Copies may be ordered from ASHRAE's Customer Service.~~

7.0 PREPARATION OF HANDBOOK MANUSCRIPTS

~~Because the Handbook editorial staff has chapters formatted in a desktop publishing program not owned by most revisers, paper manuscript markup is still the best way to indicate minor revisions.~~

As a Handbook ~~chapter's lead author or~~ reviser, you can obtain from [ASHRAE the Editor](#) the electronic [word processing](#) file for the [Handbook C](#)chapter(s) for which your TC has responsibility. [However, a markup of a photocopy is still the best way to indicate only minor revisions.](#)

Prepare separate I-P and SI manuscripts if many new units of measure are added to the chapter. If only a few measurements are mentioned in the text, the alternate set of units may be placed in parentheses after

the primary units. Round equivalents in the alternate set of units so that they imply the same accuracy as the primary units.

After the TC approval [vote](#), [photocopy and](#) fill out the [eChapter approval eChecklist found at the end of this Guide](#). Send it and two [paper](#) copies of the [full, revised](#) manuscript to [the your TC's Handbook Committee member Liaison](#), who will [send the final approved manuscript review and forward it and the supporting materials](#) to the [Editor](#). The manuscript [changes](#) can be [sent to ASHRAE submitted](#) either [in electronically format](#) or [on paper](#), but electronic is [the preferred medium for major revisions](#). [When using electronic revisions, be sure to use the "track changes" feature.](#)

[7.1 Preparing Copy for Minor Revisions, Paper or Electronic](#)

Prepare a working manuscript by cutting the chapter tear sheets (or photocopies) into [single](#) columns. Attach each column [individually](#) to a letter-size sheet of white paper ([see Sample Edited Page](#)). Photocopy these pages [to create the base pages for your revisions](#).

Indicate corrections and minor changes in the margin of the photocopied manuscript. Use proofreader marks where applicable, ([see A Sample Edited Page](#) and [a list of Proofreader Marks](#)) [are presented in Sections 11 and 12 of this Guide](#).

Indicate changes or rewritten text by crossing out the original text and rewriting or typing the new material in the right margin [as shown on this Guides' \(see Sample Edited Page\)](#). Mark the location for the text inserts on the manuscript; identify them as "Insert A", "Insert B", [etc. for example](#).

[If the changes become too substantial for paper mark-ups, Copy the new text into a word processor program and submit the file with your draft.](#) Acceptable [file](#) formats are [.doc, .wpd or .txt \(ASCII\) or .html](#) only. [If the changes are fairly minor, lock the text for tracking changes and then make the text changes.](#)

Review the chapter for definitions that should be linked [within](#) the eBook to *ASHRAE Terminology of HVAC&R* and other [Handbook](#) chapters with related topics and definitions.

[7.2 Preparing Copy for Major Revisions or New Chapters](#)

If the chapter is new or extensively rewritten [on a word processor](#), the Handbook staff prefers electronic files, [with revisions shown via the "track changes" feature, and](#) accompanied by [a printed hard](#) copy. The manuscript should be in a single column with no elaborate [formatting or special embedded codes; the editorial staff will format the text.](#) ([See the "Wired Writer" at www.ashrae.org for details.](#))

- [TC Handbook subcommittee chairs or lead revisers may obtain an electronic file of most current Handbook chapters from the Handbook Editor. Chapters are available in MS Word, ASCII text format, and/or in files that can be read by the Adobe Acrobat reader \(PDF format\). The text files contain no formatting or figures and few equations. Most tables do convert to tab delimited text, however. Tables and equations can be copied from PDF files as graphic images and pasted without change into a word processing file.](#)
- [Submit electronic copy, in electronic form \(preferably in via an MS Word file\), if the chapter is new or extensively rewritten. Include a printed copy as well.](#)
- [Provide text in a single column format.](#)
- [TC Handbook subcommittee chairs may obtain an electronic file of a current handbook chapter from their Handbook Committee liaison Liaison. Chapters are available in MS Word, ASCII text format, and/or in files that can be read by the Adobe Acrobat reader \(PDF format\). The text files contain no formatting or figures and few equations. Most tables do convert to tab delimited text, however. Tables, figures, and equations can be copied from PDF files as graphic images and pasted without change into a word processing file.](#)

7.3 Figures and Tables

Use black and white line drawings showing typical construction or operating features that are not indicative of a specific product or manufacturer. Do not use illustrations that show ~~the a manufacturer-specific~~ external appearance of a piece of equipment. Give credit to a manufacturer only in the rare cases where no comparable illustration is available and redrawing the figure is not possible. Refer such cases to ~~the your~~ Handbook Committee ~~liaison~~Liaison for further guidance.

~~If possible, printed figures should be ready to be scanned or imported for publication. Redraw the chapter's existing figures if of poor quality. Photocopies and artwork with shading or color do not reproduce well; instead use black and white line drawings. Remove all shading from figures because it is difficult to reproduce. Figures in print form should be ready to be scanned for publication.~~

If figures are done in electronic format, include those files and a printed copy of each figure with the manuscript. Acceptable graphics formats include WMF, TIF, XLS, DXF, PCX, EPS, BMP, and JPEG. Do not embed graphics in word processing files,!! but instead indicate in the text after first mention where each graphic file should be inserted via "<insert Figure 1>", for example.

Submit tables and figures in both I-P and SI versions. Include a lists of figure and table numbers and titlescaptions.

7.4 Measurement Units

- Provide both I-P and SI units for new material.
- Consult the ASHRAE pamphlet *SI for HVAC&R* for ASHRAE's policy on units and for the use of SI.
- Alternate uUnits should be rounded in the alternate set of units so that they imply the same accuracy as the primary units.

7.5 References and Bibliography

The ASHRAE Handbook follows a style suggested in *The Chicago Manual of Style*:

Last name, initials. Date. Title (sentence style, i.e., first word capitalized, rest of title lower case).
If journal: volume number, issue number, pages. If book: publisher, city.

In your text use the "author-date" method of citation, i.e. (Einstein 1932) for one author, (Smith and Brown 2001) for two, and (Columbus et al. 1492) for three or more authors. Because webpages and other electronic communications often change, the underlying publications should be cited instead. But if referencing a webpage is unavoidable, print and retain a copy.

7.5.1 References List. Arrange references to specific articles, books, or other works cited in the chapter at its end in alphabetical order by the first or only author's last name. List all authors in an entry; (do not use et al.) like is done within the main text for three or more authors. When citing conference proceedings, list the sponsor as well.

7.5.2 Bibliography. This optional section after the Reference section lists additional, uncited~~general~~ sources of information. Present each item in the same format as references. Delete entries that are out of print or outdated (such as items more than 20 years old).

7.6 Definitions, Abbreviations, and Symbols

Use definitions that agree with the latest ASHRAE and ANSI standards. *ASHRAE Terminology of HVAC&R* defines many terms common to heating, ~~refrigeration~~, ventilation, ~~and air-conditioning, and~~ refrigeration.

Abbreviations and symbols should correspond to those in the Fundamentals chapter; "Abbreviations and Symbols." Use one-letter symbols, (with subscripts, if necessary), in preference to two- or three-letter

symbols. Each symbol should have only one definition in a chapter. Try to use the same symbols as in other chapters on related subjects. Define a symbol once after its first use in an equation. If the chapter has more than ten symbols, make a list of symbols and their definitions at the end of the chapter.

~~Indicate with chapter submission those terms or definitions that should be linked in the eBook to ASHRAE Terminology of HVAC&R and other chapters with related topics and definitions.~~

7.7 Examples

Include examples for clarification where appropriate. Example problems must be expressed in appropriate rational units, (not simply converted values), for both the I-P and SI editions. Check all calculations, even if they have been repeated from a previous volume.

Units and Conversion Factors

Consult the ASHRAE pamphlet *SI for HVAC&R* for ASHRAE's policy on units and the use of SI.

7.8 Indexing and Linking

~~Identify Mark or highlight~~ important words and topics that should be listed in linked to other chapters, definitions, and the index. Insert in the text any appropriate cross-references to other chapters; these will be hyperlinks in the eBook.

~~Indicate with the chapter submission those terms that will link with the ASHRAE Terminology of HVAC&R and other chapters on related topics for inclusion in the eBook.~~

7.9 Maintenance Policy

Where applicable, Handbook chapters should contain commissioning, operation, and maintenance information specific to the equipment described. Each TC that prepares a chapter is responsible for coordinating this information with the TCs that prepare the general information in the following Applications volume chapters of the *ASHRAE Handbook—Applications*: Owning and Operating Costs; Testing, Adjusting, and Balancing; Operation and Maintenance Management; and Building Commissioning.

~~Review the chapter for definitions that should be linked in the eBook to ASHRAE Terminology of HVAC&R and other chapters with related topics and definitions.~~

7.10 Authority for Data

Give the authority, (i.e. cite a reference), for all tabulated data, charts, and recommended numerical design values to enable interested readers to validate the information.

7.11 Copyrighted Material

It is the revising TC/TG/TRG's committee's responsibility to obtain written permission to use material copyrighted by a publisher other than ASHRAE. A copy of such written permission must be submitted with the manuscript.

7.12 Recommend Publication and Distribution

The entire TC is required to recommend publication of the completed manuscript. The TC must have a recorded vote at a meeting where a quorum is present and the results of the vote shall appear in the TC's meeting minutes. After TC approval, send the completed eChapter a Approval eChecklist including the resulting vote, and two copies of the manuscript, figures, and files to the your Handbook Committee liaison Liaison, who will send the final approved manuscript to the eEditor.

7.13 Contributors

The TC Handbook subcommittee chair chapter's lead author/reviser is responsible for submitting a report that includes the Nname, Ttitle, Ccompany Aaffiliation, and address of each reviser who has made a

significant contribution to the current revision. ~~Contributors to previous revisions and original authors who should be included in the current volume should be identified.~~ The Editor typically includes no more than three authors/revisers per chapter in the volume's contributing authors list unless requested by the TC and approved by the Handbook Committee.

7.14 Proof Copies

~~Electronic proof copies~~ of chapters will be sent to the author or lead reviser ~~or author~~ for review. Please review your proof quickly yet carefully, and then return your comments promptly to the Editor. The Editor ~~tries to will~~ confer with the author or lead reviser and Handbook Committee ~~liaison~~ Liaison regarding major editorial changes that may be required in the original manuscript ~~before type is set.~~

7.15 What To Include in Submission Package

- A completed Chapter Approval Checklist, ~~(included at the end of this eGuide), including and all items called for in the checklist~~ summary of revisions, index terms, contributors, etc.
- Printouts of all text, tables, and graphics. All printouts should be first-generation originals ~~(no copies)~~. File names of graphics should be clearly indicated on the printouts.
- You can ~~S~~submit files ~~attached to as~~ e-mail attachments rather than through the mail on diskette. Use standard file extensions for electronic text and graphics ~~(such as .docDOC, or .txtTXT, etc.)~~ for example.

8.0 Chapter Review Checklist

Reviewers should read the chapter and any related chapters and answer the following questions:

1. Does the chapter meet the needs of the design engineer new to the field? Is the chapter written so that a person who is technically competent but not an expert in this particular area can understand it?
2. Is the title brief, accurate, and informative?
- ~~3.3.~~ Is there any information that has not been included?
- ~~3.4.~~ Is there information in the chapter that should not be there?
- ~~4.5.~~ Is there information in the chapter that is already in the handbook somewhere else? Where? Is the content coordinated with that presented by others?
- ~~5.6.~~ What ~~current~~ recently completed research should be included in the upcoming chapter revision?
- ~~6.7.~~ Is anybody else doing research that should be monitored?
- ~~7.8.~~ What is changing in the industry that could affect this chapter?
- ~~8.9.~~ Are technologies emerging that should be mentioned or described?
9. ~~Is the chapter written so that a person who is technically competent but not an expert in this particular area can understand it?~~
10. Is there any related information in an ASHRAE special publication that should be referenced?
11. Are there data that should be deleted?
12. If data are deleted, should it be available for use other than in via old handbooksvolumes? If so, how?
13. Is all information properly referenced? Should other important references and bibliography material be included? What are they?
14. Are there derivations that should be deleted or simplified?
15. Are there examples that should be deleted, or simplified, or ~~that need to be~~ clarified?
- ~~16.~~ Has all commercialism and bias been removed? All relevant technologies presented accurately?
- ~~16.17.~~ What is the best part of the chapter?
- ~~17.18.~~ What is the worst part of the chapter?

9.0 Outline for Fundamentals Chapters

Chapters in the Fundamentals [Handbook volume](#) provide concise descriptions of basic engineering principles and [basic](#) data in the form of [text](#), tables, charts, and graphs [as](#) used in HVAC&R.

This outline provides guidance to the author/reviser so that chapters whose primary purpose is to present basic information are consistent and easy to follow. [Topics that don't apply to a chapter can be skipped.](#)

[Title](#)

[Brief, accurate, and informative.](#)

Contents

Major headings [contained](#) in the chapter.

Introduction

The introduction is a concise statement of the purpose of the chapter. [It includes the topic\(s\) covered, why they are included, and how the information in the chapter relates to HVAC&R.](#)

Definition/description/[purpose](#)

Include a brief statement of the [intended](#) use for the information in this chapter.

Body/Discussion

The body of the chapter contains some or all of the following items as needed. **[Be clear—ask someone who is not an expert in the subject area to review the revised chapter for clarity.](#)**

1. Development of the background and derivations

Be concise. [Assume that the reader has an engineering degree or equivalent experience.](#)

Don't repeat the obvious.

Lengthy derivations should be avoided; it is better to summarize and refer to other authority so that readability is enhanced.

Use standard symbols, ~~and~~ definitions, [and units](#).

References to proprietary or specific products are not appropriate.

2. Calculations

Are calculations required to use [the](#) information properly? [Use references to other chapters or special publications](#) when appropriate.

3. Illustrations/Examples

Examples help clarify calculations unique to this information. [References to other chapters with notes pointing out the differences may make a better and more complete presentation.](#)

4. Tables/Graphs

Who will use the table or graph? [Why?](#) [Is this information available electronically?](#)

Be sure the information is complete. [If not can more information be found elsewhere?](#) [If so, give a reference and availability.](#)

Is there too much detail or not enough to use the table? [Should it be recast for better usability?](#)

Is there too much precision [used](#) for the data's accuracy? [Could the size of the table be reduced without missing anything important?](#)

Be sure to give authority for [figures and](#) table as well as any qualifying footnotes and other limitations. [Just describing them in the text may not be adequate.](#)

References and Bibliography

Arrange references alphabetically by [the first or only author's last name](#). [Be sure all references cited in the text are listed in this section and are available in the general literature or a copy exists at headquarters.](#) [References not readily available will may be deleted from the list.](#)

10.0 Outline for Applications, Systems, and Equipment, and Refrigeration Chapters (HVAC and Refrigeration)

Applications and some Refrigeration chapters provide information that helps the design engineer use the equipment and systems described in other [handbook volumes](#). These chapters describe what to consider when designing for a specific application. The information helps the designer select and use equipment properly. It does not describe how to design components or equipment.

Systems chapters cover common HVAC&R systems and illustrate features and differences. **Equipment** chapters cover arrangements or assemblies to help system designers select and operate equipment. Basic design procedures should be referenced to other chapters. [Refrigeration chapters often cover both systems and equipment](#).

This outline provides guidance to the author/reviser so that chapters whose primary purpose is to present basic information are consistent and easy to follow. Topics that don't apply to a chapter can be skipped.

Title

[Brief, accurate, and informative.](#)

Contents

Major headings contained in the chapter.

Introduction

The introduction is a concise statement of the purpose of the chapter. It includes the topic(s) covered, why they are included, and how the information in the chapter relates to HVAC&R.

Definition/description/purpose

A brief statement of what the application being covered includes and excludes.

Body/Discussion

The body of the chapter contains some or all of the following items as needed. **Be clear—ask someone who is not an expert in the subject area to review the revised chapter for clarity.**

Component parts

Define specific parts. Give enough detail so that it can be distinguished from other similar applications, systems, or equipment. Refer to material in other chapters to avoid duplication.

1. Typical applications/~~Application~~ and restrictions

For what or where is the application, system, or equipment used? Give examples. Make the reader aware of restrictions on the use of the application. Warn of common equipment/system misuse so that others do not repeat ~~the~~ mistakes.

2. Advantages/Disadvantages

What are the advantages? What are the disadvantages?

3. Operation/Control considerations

What special things should be considered when using the application, system, or equipment?

4. Selection considerations

How can the reader determine when to use this application? Be as specific as possible. What is important to look for? What would preclude the use?

5. Cost considerations

Designers should be aware of all associated costs. Include ~~such~~ information such as initial ~~cost~~, energy, ~~and~~ operating/maintenance, and disposal costs.

Operating considerations and characteristics

Where applicable, include commissioning, operation, and maintenance information specific to the equipment described. Each TC that prepares a chapter is responsible for coordinating its specific commissioning, operation, and maintenance information with the TCs that prepare the general information. Are there special things to be done for proper operation? What are any special characteristics? Things to consider include sound, vibration, control, ~~and~~ power requirements, safety, and access for inspection, testing, and maintenance.

7.6. Calculations

Include calculations required to properly select and apply equipment to this application. Use references to other chapters when appropriate.

8.7. Specialty situations

Describe unique factors that apply only to the application being described in this chapter.

9.8. Illustrations/examples

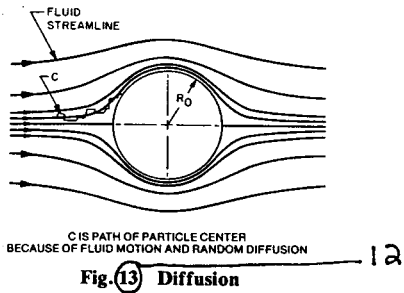
Consider including examples to help clarify ~~calculations unique to~~ the application. References to other chapters with notes pointing out the differences may make a better and more complete presentation.

References and Bibliography

Arrange references alphabetically by the first or only author's last name. Be sure all references cited in the text are listed in this section and are available in the general literature ~~or a copy exists at headquarters~~. References not readily available ~~will may~~ be deleted from the list.

11.0 SAMPLE EDITED PAGE

Revisers: Please follow this format if you make only a few revisions to a chapter. Do not retype the entire chapter unless changes are extensive. The Handbook editors do, however, welcome major changes on disk in ASCII (text) or word processor format.



ciency standards, but the cost of fan operation is substantial and a serious corrosion problem ~~exists~~ relating to the HCl generated by the combustion of vinyl chloride plastics. Precipitators have neither of these drawbacks, but do require good temperature control and preconditioning of the gas to produce acceptable resistivity of the ash. ^{there is}

~~Res.~~ The glass industry has taken significant steps to reduce emissions from its glass-melting furnaces. Despite the sub-micrometre particulate size and the high resistivities common to glass melting, most furnaces ~~previously out of compliance~~ with environmental standards are now ~~under~~ control ^{that did not comply} through the use of electrostatic precipitators. ^{led by}

WET COLLECTORS

Wet-type dust-collecting devices have been used for at least 75 years to remove all types of dust, mists, and fumes from process gas streams. Wet collectors are devices that apply some type of liquid (usually water) to capture and remove particulates (dust, mist, and fumes). Particle diameter sizes can range from 0.3 to 50 μm or larger. Wet collectors can be classified into three categories: (1) low-energy-type (up to 1 W/cfm [2 J/L]); (2) medium-energy-type (1 to 3 W/cfm [2 to 6 J/L]); and (3) high-energy-type (over 3 W/cfm [6 J/L]).

Principle of Operation

The more important mechanisms involved in the capture and removal of the particulates are: inertial impaction, Brownian motion diffusion, and condensation.

Inertial impaction (see Fig. 12) occurs when a dust particle and a liquid droplet collide, resulting in the particle being captured. The resulting relatively large-sized, liquid dust-particle droplet allows easy removal from the carrier gas stream by gravitation or impingement on separators.

Brownian motion diffusion (see Fig. 13) occurs when the dust particles are extremely small and have motion independent of the carrier gas stream. These small particles collide with one another, making larger particles, or collide with a liquid droplet and are captured.

Condensation occurs when the gas or air is cooled below its dewpoint. When moisture is condensed from the gas stream, fogging occurs, and the dust particles serve as condensation nuclei. The dust particle becomes larger as a result of the condensed liquid, and the probability of removal by impaction ~~is~~ ^{increases}.

Inertial impaction, Brownian motion diffusion, and condensation are important mechanisms that capture and remove particulates. ^{ital} ^{cal of}

Inertial impaction occurs when a dust particle and a liquid particle ~~is captured~~ ^{collide}. A large liquid-dust particle droplet results that is easily removed from the carrier gas stream.

1/3 for the collide.

12.0 PROOFREADING MARKS

<u>What they mean</u>	<u>How they are used</u>
<i>e</i> delete	<i>e</i> Ha nd book
<i>⌋</i> close-up; delete space	<i>⌋</i> Hand⌋book
<i>^</i> insert	<i>a/</i> h [^] ndbook
<i>^</i> insert word	Hand/ the [^] book
<i>^</i> insert comma	<i>^</i> end [^] handbook
<i>⊙</i> insert period	<i>⊙</i> end [^] Handbook
<i>#</i> insert space	<i>#</i> Fundamentals [^] Volume
<i>¶</i> begin new paragraph	<i>¶</i> end. [^] The Handbook
<i>tr</i> transpose	<i>tr</i> <u>Volume</u> <u>Fundamentals</u>
<i>lc</i> lower case letters	<i>lc</i> H A ndbook
<i>sp</i> spell out	<i>sp</i> Hbdk
<i>]</i> move right	<i>]</i>]Handbook
<i>[</i> move left	<i>[</i> Handbook <i>[</i>
<i> = </i> insert hyphen	<i> = </i> air [^] conditioning system
<i>stet</i> let it stand (do not change from original)	<i>stet</i> air f conditioning system

ASHRAE HANDBOOK CHAPTER APPROVAL CHECKLIST

Handbook Volume _____ Intended Year _____

Chapter ~~No. and~~ Title _____

Responsible TC _____ TC Chair _____

TC Handbook Subcommittee Chair _____

Chapter's Lead Author/Reviser _____

____ 1. Obtain TC approval. Date: _____

~~No. #~~ of voting members _____ ~~#-~~ Approveing _____ Rejecting _____ Abstaining _____

Vote taken: At meeting _____ By letter ballot _____

____ 2. ~~Name, affiliation, mailing address, telephone, and fax of r~~Reviser or author who will review proof pages:

Name _____

Affil. _____

Addr. _____

Phone _____ Fax _____ e-mail _____

____ 3. **Editing.** Do not rekey in chapter unless changes are extensive. See the ASHRAE Handbook Authors and Revisers Guide for instructions on preparing manuscripts.

4. References. Check that all references are published and readily available in the literature.

____ 45. **Index.** Mark or list words or topics that should be in the index.

____ 56. **Summary.** Include a brief, separate summary of changes made and new material added to chapter.

____ 67. **Contributors.** Attach list of names, affiliations, and mailing addresses of others who contributed *significantly* to ~~the~~ this revision of the chapter. We prefer to credit no more than three revisers per chapter. Do not include names of those who only reviewed the chapter or made minor edits.

____ 78. **Figures.** New and redrawn figures should be original artwork (preferably not photocopies), ready to reproduce for printing ("camera-ready"). Include files on a disk if figures are done in electronic graphics format.

____ ~~8. References.~~ Include copies of new references (except ASHRAE publications or other association standards).

____ 9. **Permissions.** Include copies of written permission to use material from publishers other than ASHRAE.

____ 10. **Submittal.** Submit this completed checklist, items 45 through 9, and two copies of the TC-approved manuscript to your TC's Handbook Committee member Liaison who should be listed on your roster. *If the chapter is new or has major changes, include a labeled disk with the text in MS Word (.doc), or ASCII (.txt), or WordPerfect format format.*

Thank you for your help in improving our Handbook

L. Spielvogel Comments-June 22, 2003

For the new Section 5 on Handbook Chapter Deletions, may I suggest that each TC be asked to have members that have access to old Handbooks review ALL past similar Handbook chapters. They should put together a list of subjects and chapters that no longer appear in the current chapter or Handbook showing the chapter and year in which those subjects do appear. A list should appear at the end of each chapter, and should show the first year reviewed. To gain access to old Handbooks, the person should either have the books, or be near a library that does, or near a member that does. I will volunteer to make my set available for this purpose, and I assume the set at ASHRAE in Atlanta is also available.

In Section 6, should TAC consider establishing a practice requiring EVERY TC member and corresponding member to at least review the draft Handbook chapters? Of course, they would be asked to provide material and/or comments. Each person would have to say in writing that they either have reviewed the drafts or they are not competent to do so. Failure to provide a written statement without justification is grounds for non-renewal of TC membership. A justification would be limited capability in one area of the TC responsibility. There are too many takers and not enough contributors, and this should help people either participate or be removed from the rosters.

Also in Section 6, the Handbook liaisons and the TC Chairs should be required to get formal written outside reviews of their chapters, just like Technical Papers are required to have peer review, or the chapters will not be published. This would force the preparation of drafts with enough time to get outside reviews and enough time for the TC members to also review the drafts.

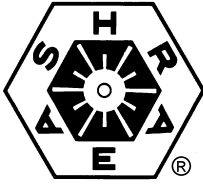
I emphatically disagree with the deletion of most of the text on Reference in 6.6. Some guidelines for references and bibliographies should be established. First and foremost, any reference should be readily available at major libraries, such as those in engineering colleges, or alternatively, a copy of each reference should be maintained in Atlanta for that chapter. The references and bibliography should contain material that supports the content of the chapter and material that expands on those subjects.

The current requirement that references be submitted is not being followed, and should be. Failure to submit references to Atlanta should also be the basis for not publishing the chapter. The Handbook Editor is probably not following the requirement to delete references not submitted. References from "other trade and professional association publications and standards" must also be submitted to Atlanta, unless they are readily available in major libraries.

There is also a frequent concern about the quality of references, especially those that are not peer reviewed. All too often a reviser will include as references most of what they have published, to the exclusion of other competent and relevant materials.

In Section 7.5, referenced web pages should also be printed and sent to the Handbook Editor for permanent filing in Atlanta. Any web page reference that is not printed and sent to the Editor will be deleted along with the content using the reference.

Finally, ASHRAE should put all available indexes to ASHRAE and predecessor publications on pdf or searchable files on the website, as far back as 1894. This will permit Handbook revisors and all ASHRAE members to have access, so they can at least know what was published, where, and when.



Handbook Committee SPO Action Plan Outline

June 29, 2003

This initial action plan outline has been formulated for the Strategic Plan Objectives approved by the Board in January 2003. The Handbook Committee will develop the action items further at its October 2003 meeting.

These objectives were composed in response to the strategic planning initiative approved by the Board at the January 2002 meeting: *ASHRAE shall revise the Handbook series to make the Handbooks more relevant to ASHRAE's primary customers.*

Strategic Plan Objectives (SPOs):

1. Review current Handbook content criteria for relevance to member needs.

ACTION:

- a. The Handbook committee and others have reviewed the current criteria as described in the Author/Reviser Guide and completed a revision of the guide to ensure that the criteria it contains are relevant to the needs of the membership at this time.

2. Identify chapters whose content has drifted from these criteria.

ACTIONS:

- a. Organize and review comments from Past President Jim Wolf's visits to chapters, data from web-based surveys, Past President Bill Coad's review comments on the 2000 *HVAC Systems and Equipment* volume, and comments gathered via the web comment form and by other means.
- b. Conduct immediate reviews of chapters from 2005 *Fundamentals* and 2006 *Refrigeration* volumes.

3. Correct the chapters.

ACTIONS:

- a. Volume subcommittee chairs and liaisons will communicate the reviews/comments to the TCs and provide guidance on revisions where required.
 - i. Guidance will aim at incorporating a proper content balance as described in the Author/Reviser Guide and in the Handbook Committee MOP.
 - ii. Changes must meet established publishing deadlines.
 - iii. The volume subcommittee chairs and liaisons will provide TC Handbook subcommittees with suggestions for improving the content and usability of chapters.
- b. Volume subcommittee chairs and liaisons will follow up with TCs to ensure implementation of revisions.

4. Develop a process to ensure that Handbook chapters continue to meet the established criteria.

ACTIONS:

- a. Conduct annual training for all Handbook chapter revisers.
- b. Expand formal Handbook Committee member training.
- c. Improve web-enabled comment collection and publicize its availability.
- d. Evaluate and revise Handbook Author/Reviser Guide every four years.
During the four-year interval, committee will seek and listen to member needs.
- e. Add procedures to the MOP for gathering and distributing comments to the following persons:
 - i. TC chairs
 - ii. TC Handbook subcommittee chairs
 - iii. Handbook Committee volume subcommittee chairs
 - iv. Handbook Committee liaisons
- f. Conduct forums at Society meetings to solicit comments on the Handbooks.
- g. Enlist the aid of the College of Fellows to systematically review chapters in each volume.
- h. Recommend to Publishing Council/BOD that the Handbook Committee BAR include in member qualifications some experience in specific content areas pertinent to the volume assigned.
- i. The Current MOP provides Handbook final authority for content. Develop better collaboration process with TAC for making needed changes.

Attachment D

Handbook Committee Subcommittee Assignments

Role	Volume	LastName	FirstName	Excom	Guide/Review	Training	Electr Enh	Strateg	Publicity
Chairman		Cooper	Kenneth	Chair				Advisor	
Vol Chair	2004S	Werman	Lynn	X		Advisor		X	Chair
member	2004S	Damshala	Prakash			X			
member	2004S	Davis	Ronald				X		
member	2004S	Hoey	Kevin		X				
member	2004S	Myers	Garry					X	
Vol Chair	2005F	Underwood	David	X		Chair	Advisor	X	
member	2005F	Carscallen	George			X			
member	2005F	Fleming	William					X	X
member	2005F	Jackins	Lane		X				
member	2005F	Wells III	John		X				
Vol Chair	2006R	Maxwell	Norm	X			X	Chair	
member	2006R	Evans	Richard						X
member	2006R	Krafthefer	Brian		X		Chair		
member	2006R	McCartney	William			X	X		
member	2006R	Mendez	Florentino						X
member	2006R	Sun	Benjamin			X			
Vol Chair	2007A	Rock	Brian	X	Chair			X	
member	2007A	Brickman	Harvey						X
member	2007A	Debes	Gary						X
member	2007A	Francis	Charles			X			
member	2007A	Lawson	Carl		X				
member	2007A	Thrasher	Karen						X

X = assignment

Handbook Committee MBO Status

ASHRAE Society Year 2002-2003

Chairman: Kenneth W. Cooper

Date: June 2003

Objective	Planned Completion Date	Fiscal Impact	Responsible Subcommittee	Status	Comment
Develop a plan to address the BOD request for 'more practical information'	June 2003	None	Action plan	Ongoing, there are various initiatives between TAC and HBC as a result of the calls and meetings this spring. The Authors Guide update will be voted on at the June meeting.	There is a perceived need for the handbooks to be more 'practical.' There is also a need to continue development of electronic versions for the future.
Implement formal HBC liaison basic training	June 2003	None	Training	Continuing, in light of conversations with TAC. Handbook Author/Reviser Guide expected to be focus of training.	This training initiative will have to continue and be expanded in the light of the recent meetings and calls with TAC and BOD members.
Pilot electronic enhancement program	Ongoing	None	Electronic Enhancement	Ongoing, Subcommittee working with 8 TC's	Continuation of existing program working with TC's Progress is slow due to time commitments.
HBC/TAC pilot program	Ongoing	None	Excom	Ongoing, Chair of HB on TAC oversight subcommittee	Several meetings and conference calls have taken place this spring. This MBO will be replaced by a more formal process.
Information presentation to members	Jan 2003	None	Strategic Plan	Complete Jan 2003.	BOD Strategic plan committee helped structure objectives for ongoing improvement of Handbook. Items from this will be included in the Strategic emphasis.
Overall review of HB Content for Handbook volumes	June 2003	None short term	All Members	Special review of HOF initiated May. This is a continuing process that will be more fully developed as a result of the HB/TAC ongoing dialog. Refrig committee will be asked to do a special review of Refrig Volume.	Coordinated review by HBC members and key others to present recommendations for obsolete, revised and new info for HB series. Info missing such as 'direct fired gas heat'. Review chapters for appropriate complexity and presentation of information. Consider both print and e-Book

Attachment F

Handbook Committee MBOs
 ASHRAE Society Year 2003-2004
 Chairman: Kenneth W. Cooper
 Date: June 2003

Objective	Planned Completion Date	Fiscal Impact	Responsible Subcommittee	Status	Comment
Hold the first formal training session for HBC liaisons	January 2004	None	Training		Flesh out plan for training presented at June meeting.
Hold the first formal training session for TC chapter reviewers	January 2004	None	Training		Develop procedures for this activity utilizing the resources of TAC and HBC
Complete the Strategic plan action steps outline	October 2003	None	EXCOM		Work with TAC and others to identify methods of working together.
Pilot electronic enhancement program	Ongoing	None	Electronic Enhancement	Ongoing, Subcommittee working with 8 TCs	Continuation of existing program working with TC's
Overall review of HB Content for Handbook volumes	Ongoing	None	EXCOM		Expanded role for HBC volume chairs needs to be defined and refined. Procedures and training for volume liaisons assistance developed.
Provide "positive" publicity that will be used to enhance the image of the Handbook	Ongoing	None	Publicity		Establish a subcommittee to work with staff to identify methods, get at least 4 "publicity" items published, and establish an ongoing effort.