

ASHRAE AUTHOR'S MANUAL

(rev. 1/07)

1. GENERAL

The purpose of this manual is to provide information and guidance to authors preparing papers for ASHRAE's print publications and for sessions at ASHRAE Meetings. Papers undergo critical review and are accepted by the ASHRAE Program Committee before being prepared for publication.

This manual should be used when writing for *HVAC&R Research*, the Winter and Annual Meetings, and the IAQ Conference. Please contact the editor of the *ASHRAE Journal* (rmatyasovski@ashrae.org) for guidance when writing for that publication.

1.1 Overview of Peer-Reviewed ASHRAE Publications/Conferences

1.1.1 *HVAC&R Research*

HVAC&R Research is a bimonthly, critically peer-reviewed journal that publishes original papers reporting archival research. Papers are judged on the basis of their lasting value to the R&D community. To be accepted, papers must include proper references to and discussion of preceding works. They also must describe the research being reported in adequate detail so that the work is of use to other researchers.

To meet the readership's demand for cutting edge information that is new, insightful, and corroborated, the editor and associate editors of *HVAC&R Research* are internationally renowned researchers, selected to represent all areas of interest to the R&D community dealing with HVAC&R and related environment control issues.

Submit *HVAC&R Research* papers online at <http://mc.manuscriptcentral.com/ashrae>. Please follow the Submission Instructions posted at <http://www.ashrae.org/publications/detail/14805> or in the "Instructions & Forms" section at <http://mc.manuscriptcentral.com/ashrae> when submitting. Reviews will be done using ASHRAE's online review process.

Assistance can be obtained from:

Dr. Reinhard Radermacher
Editor, *HVAC&R Research*
University of Maryland
Department of Mechanical Engineering
College Park, MD 20742-3035

1.1.2 ASHRAE Winter and Annual Meetings/*ASHRAE Transactions*

ASHRAE Transactions is the technical proceedings of the two major ASHRAE meetings held annually: the ASHRAE Winter Meeting and ASHRAE Annual Meeting.

ASHRAE meetings assemble the world's leading practitioners of HVAC&R technology, and each of the semi-annual volumes of *ASHRAE Transactions* includes more than 60 peer-reviewed papers. *ASHRAE Transactions* is the principal reference for the state of current technology for all fields of ASHRAE member interest.

Transactions papers describe research and technical studies and present application experiences. Comments on the papers from ASHRAE members and others who attended the presentation, along with author replies, are included with each published paper.

Submit Transactions papers online at <http://mc.manuscriptcentral.com/ashrae>. Reviews will be done using ASHRAE's online review process.

Assistance and information can be obtained from:

ASHRAE Meeting Program Administrator
Mary McGee
E-mail: mmcgee@ashrae.org
Telephone: 678-539-1178

1.1.3 IAQ Conference

The goal of a healthy building is to create indoor environments where people are healthy and productive, but buildings also have an impact on the regional and global environment. The purpose of ASHRAE's triennial IAQ Conference is to advance the state of knowledge about buildings that are both healthy and sustainable—those that create high quality indoor environments with acceptable and proportional impact on the outdoor environment.

Papers submitted for this conference should emphasize observable characteristics of such buildings and practical methods for their design, construction, operation and maintenance. The conference is open to anyone with a stake in the built environment or with an interest in indoor air quality, including researchers, policy makers, owners, designers, builders, building operators and remediation experts.

Submit IAQ Conference papers online at <http://mc.manuscriptcentral.com/ashrae>. Reviews will be done using ASHRAE's online review process.

Assistance and information can be obtained from:

ASHRAE Assistant Manager of Research and Technical Services
Steve Hammerling
E-mail: shammerling@ashrae.org
Telephone: 678-539-1158

1.2 Previous Publication and Copyright Policy

Authors shall not submit papers that are or will be considered for publication by other organizations or publishers.

ASHRAE requires previously unpublished papers in all its publications. Prior publication of technical papers in publications that are indexed or widely available from retrievable sources (including the *ASHRAE Journal* and *HVAC&R Research*) usually precludes consideration for presentation at Society meetings or publication in *ASHRAE Transactions*.

Prior presentation at ASHRAE seminars, industry meetings, or local chapter or regional meetings will not preclude selection of a paper, provided ASHRAE is given permission to publish. Authors of papers presented or published elsewhere must eliminate problems regarding publication rights.

It is the author's responsibility to secure and transmit to ASHRAE all necessary approvals for release of proprietary information and/or copyrighted materials appearing in the manuscript prior to its submission. Each author is also required to sign an Agreement to Publish Form, which gives ASHRAE the copyright and permits ASHRAE to publish the paper, to reprint it, and to offer it in whole or in part for reproduction or translation. See Appendix D for copyright information for authors being published in *HVAC&R Research*. For copyright information for other publications, contact those listed in Section 1.1 of this Author's Manual.

1.3 Commercialism

Commercialism in ASHRAE technical publications and presentations is strictly prohibited. Commercialism is defined as the inclusion of visual, written, or verbal references to any organization for the promotion or commercial advantage of that organization or the commercial disadvantage of a competing organization. See Appendix A for the complete ASHRAE commercialism policy.

2. THE REVIEW AND PUBLICATION PROCESS

All papers undergo critical review by at least three competent specialists to ensure high quality of content. The ASHRAE Program Committee decides, based on these reviews, whether papers are acceptable, need revision, or should be rejected. The name of each reviewer is withheld from the author and from the other reviewers, and the name of the author is withheld from all reviewers (i.e., a double-blind review) to ensure objective review comments and responses.

The *ASHRAE Journal* review process is coordinated by the magazine's editors. The *HVAC&R Research* review process is coordinated by the journal's Editor-in-Chief. The *Transactions* paper review activity is coordinated by the ASHRAE Meeting Program Administrator. The IAQ Conference review activity is

coordinated by the Assistant Manager of Research and Technical Services. Contact information for the above coordinators can be found in Section 1.1 of this Author's Manual.

Authors who are submitting a paper resulting from an ASHRAE Research Project should notify the Manager of Research and Technical Services when submitting a paper for review.

The ASHRAE submittal, review, and publication process proceeds as follows:

Writing Phase

1. Author(s) indicates intent to submit a paper to the Administrator and receives instructions and the Author's Manual.
2. Author prepares the paper, including artwork, according to the Author's Manual and posts the paper online at <http://mc.manuscriptcentral.com/ashrae>. Author names should not be included on the file submitted for review to facilitate a blind review.

Review Phase

3. Administrator selects qualified reviewers.
4. Reviewers carefully review paper and then submit online review to Administrator.

Refinement Phase

5. Administrator sends reviews and comments to the author. Author(s) must respond to mandatory comments. They should consider including the nonmandatory comments in further revisions.
6. Author revises paper and/or rebuts comments and posts revised paper or rebuttal online.
7. Administrator notifies reviewers that a revised paper requires an additional review.
8. Review process continues until the paper is accepted or rejected by the ASHRAE Program Committee for publication.

Publication Phase

9. After the paper is approved, author submits a final Word file and separate figure files online at <http://mc.manuscriptcentral.com/ashrae>, and the paper is scheduled for a print issue or for presentation at an ASHRAE meeting.
10. Editors edit and format paper and send a PDF to author. Author proofreads the paper—changes should be minor at this stage.
11. Paper is published in the publications of Section 1.1 of this Author's Manual or, if for an ASHRAE meeting, as an individual preprint paper available on a CD and at the meeting.

Archival Phase

12. For ASHRAE meeting papers: Editor sends any written comments and questions (generated at the meeting) to author. Author returns responses to Editor. Comments/questions are published with the paper in *Transactions* whether or not the author responds.

3. MANUSCRIPT PREPARATION

Electronic files must be prepared in accordance with this manual. An Author's Template, the Agreement to Publish Form, and instructions for converting graphics may be found in the "Instructions & Forms" section at <http://mc.manuscriptcentral.com/ashrae>.

There is no page limit or maximum number of figures for papers submitted to *HVAC&R Research*. **For papers submitted to ASHRAE Meetings and the IAQ Conference, the typewritten manuscript (including references and tables) must not exceed 30 double-spaced pages or contain more than 12 figures. Figures include graphs, photographs, charts, and drawings. The ASHRAE Program Committee's interpretation of the figure rule is that if two graphs are included in Figure 1 or if you have Figure 1a and Figure 1b, they will be counted as two individual figures, not as one.**

A cover sheet should be submitted as a separate file and must include:

- The title of the paper.
- A minimum of three and a maximum of five key words from Appendix B.
- Author names in desired order, principal author first, with (if applicable) ASHRAE membership grade, academic degrees at the doctoral level (e.g., PhD, DSc), and professional certification (e.g., PE) for all authors.

- An author note with job title, affiliation, and address (city, state, country) for each author in the following form:
 J.L. Doe is associate professor in the Department of Mechanical Engineering, Kansas State University, Manhattan, KS. **R.L. Roe** is president at Consulting Engineers, Inc., Lawrence, KS.
- Complete contact information for the corresponding author, including mailing address, phone and fax numbers, and e-mail address.

NOTE: Authors should *not* identify themselves in manuscript files to enable reviewers to maintain a blind review.

3.1 Manuscript Outline

3.1.1 Title. Must be short and to the point but descriptive of contents. If the manuscript is a result of ASHRAE research that the author conducted, the Research Project number must be included at the end of the title.

3.1.2 Abstract. Should be between 100 and 200 words, concisely stating the nature of the research, methods, major findings, and conclusions. Should emphasize any significant new contributions to the field and summarize the paper.

3.1.3 Introduction. Should contain general background information, literature review, and/or events that led to the work reported. Definition of problem should be set in appropriate framework for the solution that will follow in the main body of the text.

3.1.4 Main Body. Should include, in order, experimental designs, test procedures, theoretical consideration, and results. Sections with appropriate subtitles should describe the test equipment, measurements, observations, and mathematics needed to perform the experiments.

Reports of experiments should include an estimate of uncertainty and an error analysis. The graphs of experimental results should also show error bars in a clear manner.

3.1.5 Discussion. Results described in the preceding section should be discussed here, including qualifications, limits to the accuracy of tests and calculations, and other problems. The significance of the results for future applications in research or in practice should be specially treated.

3.1.6 Conclusions. This section is very important, since many readers may concentrate only on this part of the paper. It should list conclusions and summarize the significance of the paper as clearly and concisely as possible. All qualifying and limiting statements should be included so that the reader will not infer erroneous applications or be tempted to use the information out of context.

3.1.7 Acknowledgments. A short section may acknowledge special assistance. Sources of financial aid should always be noted, as well as the help of guiding ASHRAE technical committees, individuals, or other groups. Any person mentioned by name should be identified.

3.1.8 Nomenclature. Use a special nomenclature section when equations are used extensively. If five or fewer equations are used, the nomenclature may follow each equation.

3.1.9 References. Use the author-date method to cite references. Instead of a reference number, insert the author's last name and the date of publication in parentheses within the text. List complete citations in a References section at the end of the paper (see Section 3.4.1 of this Author's Manual).

3.1.10 Bibliography. May include source materials useful to the reader as general background information but not mentioned specifically in the text. See Section 3.4.2 of this Author's Manual for examples.

3.1.11 Appendices. May include supporting data, sample calculations, derivations of complicated mathematical equations, and detailed description of apparatus. Material in the appendices count in the page and figure limitations.

If there is more than one appendix, identify each with a letter in sequence (Appendix A, Appendix B, etc.). Label figures, tables, and equations in the appendix with the same letter and number them in sequence (A-1, A-2; B-1, B-2; etc.).

3.1.12 Tables. Number tables consecutively. Identify each using a suitable heading.

- Tables may be inserted into the text as long as they are alterable tables. DO NOT submit tables as images.
- Do not use shading. Use patterns instead to distinguish sections of charts.
- If using MS Word, use the Insert Table function from the toolbar to create tables.
- If not using MS Word, separate columns using single tabs.
- Vertical lines should not be used in tables. Horizontal lines may be used to set off headings and at the bottom of the table.

Tables consist of information or data arranged in vertical columns. The index column should be the left-hand column. Label each column and include unit of measurement and other necessary qualifying information. Units should be set off with a comma (e.g., “Velocity, m/s”). Column headings should be brief but specific so there is no chance for misunderstanding. Because of space limitations, use standard abbreviations. Where space is inadequate, symbols or characters may be used in column headings and defined in a footnote.

Express large numbers in a table using scientific notation (3.25×10^6 , etc.), with the proper notation in the column heading.

Use decimal quantities carefully. The number 1.4 is not the same as 1.40 or 1.400. A measurement of 1.4 indicates accuracy to the nearest one-tenth; 1.40 indicates accuracy to the nearest one-hundredth. Also see Section 3.3.2 of this Author’s Manual.

NOTE: ASHRAE requires dual units of measurement in tables as well as text. For complex tables, use two tables, labeled “a” and “b”—one in I-P units and one in SI units).

3.1.13 Figure Caption Sheet. Prepare a list of captions for figures (graphs, charts, drawings, and photographs) and place at the end of the manuscript.

3.1.14 Figures. Figures (artwork) must be clean, clear, and sharply defined scanned photographs or computer-generated art. Please note that *HVAC&R Research* and *ASHRAE Transactions* papers will be published in black and white and that **color photographs and charts will not reproduce well in black and white.**

- Figures may be inserted into the Word text file for the review process only. For the final submission to the editors, figures must be submitted as separate TIF (preferred) or EPS files in CMYK mode (for color) or Grayscale mode (for black and white) saved at high resolution (600 dpi or greater). Figure files should be clearly labeled (i.e., Figure1.tif, Fig2a.tif, etc.). *Do not* insert figures into the Word file for final submission. A procedure to convert graphics from Word or Excel to TIF format is available in the “Instructions & Forms” section at <http://mc.manuscriptcentral.com/ashrae>.
- Use only 1 point or thicker (0.35 mm or 0.014 inch) lines in figures.
- Remove color, shading, and screened areas from figure artwork. Use patterns instead to distinguish sections.
- Labels on graphs should be capitalized and placed parallel to the axes.

NOTE: ASHRAE requires dual units of measurement in figures as well as text. For figures duplicated for dual units, use two figures, labeled “a” and “b”—one in I-P units and one in SI units. Figures and tables duplicated for units purposes count as a single figure when determining the maximum number of figures.)

3.1.15 Computer Programs. Lengthy programs or printouts are too cumbersome for publication and will only be approved under exceptional circumstances. Program identification will be limited to what is necessary for technical use of the material. Any semblance of commercial or sales promotion will not be included. The

responsible program authors and their business or professional affiliation may be acknowledged (see Section 3.1.7 of this Author’s Manual).

3.2 Manuscript Format

Authors may submit a PDF file of the paper at the review stage, but for the final stage only a Word file free of Conditional Text, Line Numbers, Track Changes, and Cross-References should be submitted. PDF and LaTeX files are not accepted at the final submission stage.

Manuscripts should be double-spaced and in a single-column format on 8 ½ by 11 in. (216 by 279 mm) or A4 sheets, with 1 in. (25 mm) margins.

For formatting guidance, authors may use the Author’s Template in the “Instructions & Forms” section at <http://mc.manuscriptcentral.com/ashrae>. This template has the preferred heading formats, etc. saved as paragraph styles that authors may use for the sections of their paper. A sample paper using the Author’s Template is also available in PDF format in the “Instructions & Forms” section at <http://mc.manuscriptcentral.com/ashrae>.

3.2.1 Headings.

- **First level.** Flush left, all caps. Indent paragraphs beneath.
- **Second level.** Flush left, caps and lowercase. Indent paragraphs beneath.
- **Third level.** Paragraph indented, caps and lowercase, followed by a period. Paragraph begins on the same line.
- **Optional.** If a fourth level is needed, use the third-level heading with only the first word capitalized. If a fifth level is needed, begin with a centered head in all caps and then proceed with the levels above.

3.2.2 Lists. Indent items in a list, preceded by a number and period. If the numbered items include one or more sentences, do not separate by semicolons.

EXAMPLE:

The HVAC system was designed to accommodate the following:

1. Placement of research equipment and walls anywhere in the laboratory without major modification.
2. Minimal energy consumption.

Short listed items may be indented and preceded by a bullet.

EXAMPLE:

... are the following:

- relative equipment first cost,
- relative future cost of gas and electric energy,
- relative amounts of heating and cooling loads.

Separate items in a list within text using numbers in parentheses.

EXAMPLE:

... the following: (1) relative equipment first cost, (2) relative future cost of gas and electric energy, and (3) relative amounts of heating and cooling loads.

3.2.3 Equations. Each significant equation or formula should be displayed on a separate line. Position equations using a standard indentation from the left margin (i.e., all equations should have the same indentation). Place consecutive equation numbers flush right in parentheses.

Indent a list of definitions of symbols used in an equation. Acceptable symbols and abbreviations are listed in the Abbreviations and Symbols chapter of the current *ASHRAE Handbook—Fundamentals*. When the word “where” separates the equation and the list of definitions, position it flush left.

EXAMPLE:

$$a^2 + b^2 = f^2 \tag{1}$$

where

a^2 = apples
 b^2 = bananas
 f^2 = fruit salad

If an equation requires more than one line, break it before an operational sign (+, −, ×, :, =) and align the operational signs on the left.

EXAMPLE:

$$\begin{aligned} E &= (a + b + c)/(m + n + o) \\ &\times (d + e + f) \end{aligned} \quad (3)$$

If two or more displayed equations are grouped together, leave space between the individual equations.

$$a + b = c \quad (3)$$

$$D = f - ab^2 \quad (4)$$

$$mon + rst \quad (5)$$

Insert Greek letters or other math symbols using text if not available electronically. In the final paper, clearly identify all special characters (for example, “Greek rho”, “A with overline”).

Spell out the word “equation” and capitalize it in the text (“substituting into Equation 6 ...”).

In a highly mathematical or theoretical paper, consider developing equations in appendices rather than in the body of the paper.

3.2.4 Tables and Figures. Original figures and tables should be submitted with manuscripts.

For tables: The heading and title appear above the tables, and every major word in the title is capitalized. Number tables consecutively, in the order that they are mentioned in the text.

For figures: The figure number and caption appear below the figures, sentence style (capitalize only the first word and end with a period). Number figures consecutively, in the order that they are mentioned in the text.

EXAMPLE:

Table 1. Comparison of Selected Criteria for Thermal Environments

EXAMPLE:

Figure 1. The comparison of selected criteria for thermal environments.

Tables may be inserted into the text as long as they are not images but alterable tables. Do not insert figures into the text; instead, save all figures as individual files (i.e., Figure1.tif, Figure2.tif, etc.).

Spell out and capitalize the words “table” and “figure” within the text (“see Figure 1,” “as in Table 2,” etc.).

3.2.5 Page and Line Numbering. Pages should be numbered consecutively with the cover page given as page one. Manuscripts submitted for review should also have each line numbered. Final manuscripts should have numbering removed.

3.3 Notes on Style

3.3.1 Units of Measurement. ASHRAE policy calls for dual units of measurement, inch-pound (I-P) and International System of Units (SI). The units used in calculating the work being reported shall be listed first, and the alternate system of units should follow in parentheses. (See also Appendix C—Units Policy). The acceptable abbreviations, symbols, and units to use are given in the “Abbreviations and Symbols” chapter of the most current *ASHRAE Handbook—Fundamentals*.

Spell out all units when used without a number.

Do not mix symbols and names in the same expression:

ft/min or feet per minute, not feet/min

Do not express plurals by adding an “s”

10 Btu, not 10 Btu's; 1 kg, 14 kg

Do not use periods with units of measurement:

min, ft, s (not sec), m, mm

EXCEPTION: in. for inch

Leave a space between the numerical value and the unit of measurement:

100 W, 10 cfm, 55 mm

EXCEPTION: There is no space between number and degree of plane angle or degrees of temperature (45°, 62°F, 20°C) or the number and the percent symbol (5%).

SI units. The International System is discussed in ASHRAE's publication *SI for HVAC&R*.

“L” is the symbol for litre, not lowercase ell or script ell.

“Centi-” is not an acceptable SI prefix, and the use of cm should be avoided. The centimeter is used only for cloth, clothing sizes, and anatomical measurements.

Online help for use of SI units is available at www.physics.nist.gov/cuu/Units and www.bipm.org/en/si/si-brochure/general.html.

3.3.2 Numbers. Always use figures in conjunction with scientific and mathematical abbreviations:

4 ft, 12 in., 2 m, 3 m²

Only Arabic numbers are used.

Spell out the numbers one to ten in the text; use the numeral for any number over ten.

Four-digit numbers need no comma (1200).

3.3.3 Percentages. Always use a figure and the percentage symbol.

3.3.4 Spelling/Grammar/Abbreviations. The word “data” is plural—data are and data have. Words should *not* be abbreviated in the text. The acceptable abbreviations and symbols to use for units of measurement are given in the “Abbreviations and Symbols” chapter of the most current *ASHRAE Handbook—Fundamentals*.

3.3.5 Acronyms. Acronyms should not be used without first giving the full expanded name. The preferred method is to put the acronym in parentheses immediately following the first mention of the full name; the acronym can then be used after that first mention.

EXAMPLE: “...measurement of the entering water temperature (EWT). Record the EWT for each....”

3.4 References and Bibliography

A reference list is composed only of works cited in the text, and a bibliography is a general reading list—the two should not be combined.

In both cases, if the entries are to be of any use, accuracy is essential. Do not write titles from memory. Verify all references against the source and be sure that the authors' names are spelled correctly, that the title is written as it appears in print, and that correct volume, issue, and page numbers and dates are listed.

3.4.1 Author-Date Method. ASHRAE's preferred method of citation, widely used in scientific texts, is the author-date method.

Cite the source by enclosing the author's name and the date of the paper in parentheses and inserting this in the text. (*NOTE*: there is no comma between name and date).

EXAMPLE:

“... a feeling of thermal comfort may be associated with phenomena other than thermal conditions alone (Winakor 1978; Woods et al. 1982).”

“... of such flow were clearly defined (Bailey 1951); however, ...”

If the author's name has just been mentioned, only the date need be inserted within parentheses.

“... were clearly defined by Bailey (1951); however, ...”

Two authors' names may be included; for three or more, use “et al”.

(Jones and Smith 1982)

(Jones et al. 1980)

If the “author” is an organization, use initials:

(ASHRAE 1982)

The full name can be spelled out in the reference entry. **A reference to a personal communication should be handled with an asterisk and footnote.**

The reference list at the end of the paper does not need to be numbered. Entries are arranged in alphabetical order, chronologically for a particular author or group of authors. All authors are listed in an entry (i.e., no “et al.”).

The following forms are preferred:

Last name, Initials. Date. Title of paper [only if in journal; first word capitalized only]. *Journal or Book Title* [in italics; major words capitalized]. Volume#(issue#):page#s [only if journal; no spaces]. City: Publisher [only if book].

EXAMPLES:

Holman, J.P. 1968. *Heat Transfer*. New York: McGraw Hill.

Moyer, R.C. 1983. Fume hood diversity for reduced energy consumption. *ASHRAE Journal* 25(9):50–52.

ASHRAE. 2005. *2005 ASHRAE Handbook—Fundamentals*, p. 367. Atlanta: American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.

Holzle, A.M., D.M. Munson, E.A. McCullough, and F.H. Rohles, Jr. 1983. A validation study of the ASHRAE summer comfort envelope. *ASHRAE Transactions* 90(1B):126–138.

Azer, N.Z., and S. Said. 1982. Augmentation of condensation heat transfer by internally finned tubes and twisted tape inserts. *Proceedings of the 7th International Heat Transfer Conference, Munich, July 11-14*.

Royal, J. 1975. Augmentation of in-tube condensation of R-113. PhD dissertation, Department of Mechanical Engineering, Iowa State University, Ames.

This is the form for standards:

ASHRAE. 1981. *ANSI/ASHRAE Standard 95-1981, Methods of Testing to Determine the Thermal Performance of Solar Domestic Water Heating Systems*. Atlanta: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

EXCEPTION: Authors of survey papers may find it necessary to use another method of citation in which a number, (9) or [9], is given at the appropriate place in the text, referring to a numbered list of references. This method should be used only when several works are cited at once or when many of the references are to proprietary names.

Recent research (1-9) has shown

Other investigators (10-17) have found

One manufacturer (10), states

3.4.2 Bibliographies. List papers or other publications cited for general background information in a bibliography.

The bibliography should follow the author-date style.

A bibliography presented in addition to a list of numbered references should follow a slightly differ style: Each entry should list the author (last name first), title, and facts of publication—each element separated by a period. The entries are not numbered. If there is more than one author, all names should be listed (no “et al.”). Journal information should include the journal title, volume number (with date in parentheses), and page numbers. For a book, list place of publication, publisher, and date.

EXAMPLES:

Holman, J.P. 1968. *Heat Transfer*. New York: McGraw Hill.

Moyer, R.C. 1983. Fume hood diversity for reduced energy consumption. *ASHRAE Journal* 25(9):50–52.

- Azer, N.Z., and S. Said. 1982. Augmentation of condensation heat transfer by internally finned tubes and twisted tape inserts. *Proceedings of the 7th International Heat Transfer Conference, Munich, July 11-14.*
- Luu, M., and A.E. Bergles. 1979. Experimental study of augmentation of in-tube condensation of Refrigerant 113. *ASHRAE Transactions* 85(2):132-45.
- Royal, J. 1975. Augmentation of in-tube condensation of R-113. PhD dissertation, Department of Mechanical Engineering, Iowa State University, Ames.

APPENDIX A



ASHRAE Program Committee Implementation of Commercialism Policy



The purpose of this policy is to define the acceptable level of Commercialism allowed by the Society Program Committee (SPC) for ASHRAE papers, presentations, and/or research documentation at the ASHRAE Winter and Annual Meetings. Commercialism is deemed to be the inclusion of visual, apparel, written, or verbal references to any organization for the promotion or commercial advantage of that organization or the commercial disadvantage of a competing organization.

The Society Program Committee will strictly enforce this policy as follows:

1. What is Not Allowed:

- a. References or displays of trade names, logos or products provided by an HVAC&R related commercial organization, except as allowed in part (2) below. Such organizations shall include, but not be limited to: manufacturers, sales representatives, consulting firms, software/hardware providers, and contracting firms.
- b. Inference that ASHRAE approves or endorses any product, software or system for any reason, even if the product, software or system complies with an ASHRAE standard.
- c. Copies of papers or portions thereof, draft position papers or recommendations, brochures, or other information SHALL NOT be made available at ASHRAE technical sessions, symposia, seminars, or forums.

What is Allowed:

- a. 2. What is Allowed: First slide or presentation introductions: This may include the name of author(s)/presenter(s), their affiliations, companies, supporting organizations, sponsoring technical committee, and corporate logo. For case studies, with permission from the study subject, the slide or presentation introduction may also reference the facility owner, facility or site of the study. Bibliographies shall be restricted to the last slide or closing remarks.
- b. Research, programs, case studies, statements, policy, and/or legislation from any organization may be referenced only in order to maintain presentation clarity and relevance. research, programs, policy, legislation or name of organizations, software, government agencies and government-sponsored agencies may be referenced only in order to maintain presentation clarity and relevance. Promotion or endorsement is prohibited and shall be excluded at the discretion of the ASHRAE Program Committee Chair or the Chair's representative. Reference to universities, research agencies, government agencies, government-sponsored agencies, and/or non-profit organizations shall be allowed as long as the reference is non-biased in nature, germane to the focus of the publication/presentation, and does not imply an ASHARE endorsement of a product and/or service.
- c. Names of computer hardware, computer software, operating systems, browsers, word processing programs, spreadsheets, presentation programs, etc. provided the reference is required to understand the presentation/publication and the intent of the presentation/publication is to examine HVAC&R technology and NOT to promote information management technology or software programs.
- d. Trade or company names and/or logos of historical nature may be allowed where the featured equipment or its lineage is no longer manufactured, and the company and/or product names are used in the context of their historical development.
- e. Trade or company names and/or logos NOT related to the HVAC&R industry provided recognition of these items in not intended to be promotional, ASHRAE endorsement is not conveyed, and there is not implication that the audience is required to use the commercial entity.
- f. Specific reference may be made to industry-related standards, test methods and codes. Some examples include ANSI Z21.19-1983, UL 425, ARI 1110-83, NFPA 20 etc.
- g. Make, model or sole source of critical test instrumentation, engineering software, reagents or apparatus may be identified as a footnote, so that others may duplicate the testing.

2. Policy Enforcement:

- a. The ASHRAE Program Committee coordinates the review of all papers prior to publication or presentation. The ASHRAE Program Committee, prior to presentation will review all presentation materials. Nonconforming items within the audio-visual material will be deleted from the material or the material will not be allowed to be shown at the presentation.
- b. The technical programs Issues Updates Seminar (sponsored by TEGA) and Public Session (sponsored by ASHRAE Program Committee) are not reviewed for commercialism since they are subject to current topics of general interest. As with any technical program, promotions and endorsements are prohibited.
- c. Exemptions for special cases will require the written approval of the ASHRAE Program Committee Chair prior to the start of the Annual or Winter Meeting.

Approved by Publishing and Education Council, January 24, 2006

APPENDIX B

Key Word List

This key word list has been developed to associate papers with content on ASHRAE's Web site. Please use this list as an aid in selecting a minimum of three and up to a maximum of five key words.

The paper's title is very important, it should not be too long, and it should be eye catching. The phrase or statement should clearly reflect the document's contents. Many abstracting agencies use only the document titles to develop their own key word lists.

KEY WORD LISTING

--A--

agricultural applications
air cleaning equipment
air conditioning accessories
air conditioning units
air distribution equipment
air handlers
air pollution control equipment

--B--

boilers
building automation & controls
building envelope

--C--

certification programs
chillers
chimneys
clean spaces/areas/rooms
coils
commercial buildings
commissioning
compressors
computers
condensing units
consulting services
controls
cooling towers

--D--

dehumidifiers
dormitories
drives
ducts

--E--

economic development
economizers
education
educational facilities
electrical components
energy management systems
energy recovery
environmental test facilities
evaporators

--F--

fans
filters
fire safety systems
food processing
furnaces

--G--

gaskets
geothermal products

--H--

health care facilities
heat exchangers
heat pumps
heat recovery units
heaters
heating accessories
hotels and motels
humidifiers
hydronic heating equipment

--I--

ice makers
ice rinks
ice storage equipment
indoor air quality equipment & products
industrial facilities
instruments & meters
insulation

--J--

justice facilities

--K--

kitchen ventilation systems

--L--

laboratories
libraries and archives

--M--

motors
museums

--O--

oil

--P--

pipes
power plants
public assembly buildings
pumps

--R--

radiant heating equipment
refrigerant control equipment
refrigerants
refrigerated facilities
refrigerating equipment
research & development
residential buildings
restaurants and hospitality facilities
retail space

--S--

software
solar equipment
soldering, welding, and brazing equipment
supermarkets

--T--

testing laboratories
thermal storage
tools
training

--U--

utilities

--V--

valves
VAV equipment
vibration & noise control

--W--

warehouse refrigeration
water heaters
water treatment

APPENDIX C

Units Policy

Publishing Council BAR

The units use or application policy shall include, as a minimum, time-dated directions on the use of SI and I-P in all ASHRAE publications.

TC 1.6 shall serve as the authority on SI and I-P usage and application.

Research projects; codes, standards, guidelines and addenda thereto; special publications; Insights articles; Journal articles; and Handbooks shall be prepared using the International System of Units (SI) and/or inch-pound units (I-P) in formats approved by the Publishing Council.

The Publishing Council shall review annually the approved formats to be used in ASHRAE publications, considering suggestions from members and committees, and shall establish any changes in the approved formats.

The Publishing Council shall consider this Units Policy annually and shall recommend to the Board of Directors the formats to be used in ASHRAE publications.

- (a) The format for ASHRAE publications shall be dual units, except in cases determined by the Publishing Council, where two separate versions are to be published, where one is rational SI and the other is rational I-P. For selected ASHRAE standards and guidelines, the Standards Committee may approve use of SI units only.
- (b) In dual unit publications, the units used in calculating the work being reported shall be listed first. The alternate system of units should follow in parentheses. Authors shall round off equivalents in the alternate system of units so that they imply the same accuracy as is implied with primary units.
- (c) Exceptions require the approval of the Director of Communications and Publications.

All future Handbook volumes shall be published in separate SI and I-P editions.

[The Units Policy is also in the Research Administration Committee and Standards Committee Board-Approved Rules.]

APPENDIX D

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