ASHRAE 2000 & Beyond

Strategic Direction to Advance Technology for a Better Environment

Strategic Plan IV 1997-2002

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.



ASHRAE Strategic Plan IV

Long Range Plan Approved by the Board of Directors June 26 & 27, 1996 Strategic Plan Approved by the Board of Directors June 29, 1997

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ASHRAE 2000 & Beyond

The Members' Plan

ASHRAE 2000 and Beyond is a member-driven plan which gives strategic direction to Society activities for the years 1997 through 2002. Its purpose is to increose the value of ASHRAE membership by improved member services as well as providing better environment through advancing ASHRAE technology.

The eighteen objectives of the plan give strategic direction to actions which will occomplish four gools:

- Provide a comprehensive education program that enhances opportunity for professional growth.
- · Ensure timely transfer of information.
- Respond to current and emerging HVAC&R issues.
- · Provide for diverse global growth.

The goals and objectives presented in ASHRAE 2000 and Beyand are the goals and objectives of the Society's membership. The goals, recommended to the Board of Directors by the Long Range Planning Committee, and the accompanying strategic objectives, recommended by the Strategic Planning Ad Hoc Committee, are based an input from and critical review by a wide cross section of ASHRAE volunteers, volunteers who participate at the chapter, regional and international levels of the Society. They reflect the vision that ASHRAE members have far their Society as it approaches and mayes on to the next millennium.

ASHRAE Planning Policy

To implement long range and strategic planning, ASHRAE has adopted the following definitions:

Long Range Plan: Establishes goals for five or more years into the future. It begins with a vision of what ASHRAE should be in the future, taking into account external factors that will impact the Society and the industry it embraces. Its goals provide direction for the future activities and policies of the Society.

Strategic Plan: Bridges the gap between short term or operational plans and the long range plan. It establishes objectives which are achievable in a time frame of up to five years, giving direction for accomplishing each goal. Objectives must be attainable, assignable and measurable.

Action Plan: Establishes tasks or sets of tasks to achieve an objective. An action plan is prepared for every objective contained in the strategic plan.

Operational Plan: Sets objectives far the next fiscal year based on a process called Management by Objectives. At the Society level, operational plans are developed annually by each Standing Committee. The fiscal impact of each operational plan must be included in the responsible cammittee's budget. Operational plans support the strategic plan and respond to the Society president's theme.

Council Responsibilities in Strategic Planning

In ASHRAE's Planning Policy approved in 1991 and periodically revised, the Board of Directors charges its councils with responsibility for strategic planning. Strategic Plan IV was developed under this mandate, with the Board's five councils — Regions, Member, Technology, Education and Publishing — responsible for coordinating input to and review of droft objectives. To accomplish this, they actively solicited input from a wide cross section of chapter and Society-level leaders.

With approval of Strategic Plan IV, cauncils now have responsibility for executing their objectives. These responsibilities are:

Review and Revise Objectives — Councils should review objectives on an on-going basis. They may recommend to the Baard changes to the wording of objectives or the deletion of strategic objectives when and as required.

Action Plan Approvol — Eoch strotegic objective must have an action plan. The action plan lists the individual tasks to be completed, showing for each task the planned completion date, the fiscal impact, and the responsible party. The tasks within an action plan for any one abjective may be solely the responsibility of one committee or may be assigned to several committees.

Approval of the action plan is the responsibility of the council charged with implementation of the objective. Charges to the action plan must be opproved by that council. After giving its approval to an action plan, the council must send the plan to the Board and to the Finance Committee for their information.

Budgetary Impact of Action Plans — Councils must account for the impact of action plans in their annual budgets in accordance with the ASHRAE budget approval schedule and process. They may include funding far action plans in existing council programs, in new programs or as unprogrammed expenses, but the fiscal impact must be accounted for in the council's budget.

Action Plan Monitoring — Standing cammittees must report the status of their action plans to their respective councils at each winter and annual meeting. Councils must report the status of action plans to the Baard at each meeting.

Completion of Action Plans — Board action is required for a strategic objective to be considered accomplished. The Board takes action based on a repart from the responsible council documenting completion and a motion from the council to accept the objective as complete.

Attacking the Objectives

Strategic Plan IV was crafted on the following basis:

The completian date for all objectives (except for one) is assumed to be the end of the plan period, i.e., June 2002. Action plans, which include tasks initiated and completed at varying times during the plan period, should include intermediate milestones that lead to completion of the objective.

- Single responsibility has been assigned for each strategic objective. Only one council, or in several cases o single committee, is responsible. The responsible council (or committee), however, must seek the input ond cooperation of other councils that are imported by the objective and can contribute to its completion.
- A "Measure of Completion" is given for each objective. In many cases this requires a baseline from which progress can be meosured and campletion of the objective can be validated. Establishment of a suitable baseline should be one of the first tosks in the oction plans for these objectives.
- The background statement given for each objective is not intended to define the objective or its action plan. Rather, it is intended to help clarify the intent of the objective and suggest possible actions for consideration by the responsible group.

Benefits of Strategic Planning

The intent of ASHRAE's long range and strategic planning process, colled here collectively ASHRAE 2000 & Beyond, is to better position ASHRAE to advance the arts and sciences for the public's benefit. The plan largely enables ASHRAE to do this by improving the level of service it provides to its members.

The ASHRAE that is envisioned through completion of the strategic objectives better serves its members, better utilizes and identifies volunteer resources, better advances new technologies, and better communicates with the public at large.

The intent of the objectives is to create an ASHRAE in the years 2000 and beyond that achieves our vision of being:

The global leader in the arts and sciences of heating, ventilation, air- conditioning and refrigeration;

The faremast, authoritative, timely and responsive source of technical and educational information, standards and guidelines; and

The primary provider of opportunity for professional growth, recognizing and adopting to changing demographics and embrocing diversity.

Strategic Plan IV charts our course to attain this vision so that our Society may advance Technology for a Better Environment.

Goal 1: Provide a comprehensive education program that enhances opportunity for professional growth.

Strategic Objectives

1.1 Involve members to improve the quality of primary through post-secondary education in math and science.

Background: In an ecanomic context, technological development will drive growth and change for the next several generations. Because education is critical to the development of technology, our educational systems must be oriented to the production of graduates who possess the skills upon which technology rests: math and science. A cooperative system must be developed involving parents, teachers, government, professions, trade groups and industry to ensure that students are learning what they will need to be successful five, ten and twenty years from now.

ASHRAE must facilitate the involvement of its members to work with educators to support math and science programs within our primary and secandary schoals. ASHRAE must also facilitate the involvement of its members in the development and presentation af quality HVAC&R courses at trade schoals, colleges, technical schools and universities.

Measure of Completion: Every chapter has a functioning, resultsoriented program that involves members in primary through post-secondary education, with a measurement tool available to gauge the effectiveness of these programs.

Responsibility: Education Council

1.2 Partner with outside organizations to expand the breadth and scope of ASHRAE's educational programs.

Background: Recognizing that education is one of the key elements in ASHRAE's mission, the Society has taken several important steps to strengthen its education program. In 1992 both the volunteer and the staff organizations were restructured to provide greater focus on education, and in 1994 the ASHRAE Foundation was created, which has enhanced the Society's ability to provide financial support to education. "Partnering" is yet another step that can strengthen ASHRAE's education program. By establishing cooperative arrangements with other organizations which have similar educational needs and/or broader capabilities, ASHRAE can significantly increase the scope and quality of its educational offerings.

Measure of Completion: Execute one or more caoperative agreements—each of which has the potential far significantly increasing the quality and scope of ASHRAE's educational offerings with a minimum of two organizations which have similar educational needs and/or broader capabilities.

Responsibility: Education Council

1.3 Increase participation in ASHRAE educational programs.

Background: Strengthening educational opportunities available through ASHRAE will provide a better worldwide understanding

of ASHRAE-related issues and encourage participation in ASHRAE activities by existing and potential members.

Programs may exist in different formats. For example, electronic formats may include animation, search features and sound. Pragrams may be self directed or given in different venues, such as on the Internet, by chapters and student branches, as part of university/technical school curricula, at ASHRAE meetings and conferences, or through long-distance learning. Offering programs in SI units or in languages other than English may increase international participation. Program development could be enhanced by partnering, by coordinating with various entities within ASHRAE responsible for providing continuing education, or by soliciting member and industry input to identify new program topics or materials.

Participation in ASHRAE education programs may be encouraged by helping employers advocate employee participation, through scholarships, and by making ovailable low-cost program materials for selected audiences, such as students. These activities should increase the number of participants while not decreasing the overall financial stability of ASHRAE's continuing education programs.

Measure of Completion: Increase participation in ASHRAE education programs by 75%.

Responsibility: Education Council

1.4 Provide an education program that employers accept as producing qualified practitioners of the arts and sciences of HVAC&R.

Bockground: Most individuals entering our industry from faur-year engineering pragrams have taken few, if any, courses in HVAC&R. An ASHRAE program is required to provide these individuals and athers with a way to receive instruction on the fundamentals of the HVAC&R industry, measure their technical knowledge, and ochieve recognition for successful completion of the program.

The purpose of this program will be to provide the HVAC&R industry with a mechanism whereby individuols can receive comprehensive training in HVAC&R fundamentals in preparation far and to enhance their professional coreers within the industry. ASHRAE will establish and communicate minimum technicol knowledge requirements, will measure an individual's technical knowledge of HVAC&R fundamentals, and may administer a technicol knowledge exam.

The program must use formots which meet the needs of participants. Use of multi-media may be involved, and on-line components may be offered along with distance learning technology to expand accessibility. The technical knowledge testing program, if instituted, must be established around a basic level af technical understanding; and individuals, upon successful completion, would receive a diploma or certificate of completion.

Measure of Completion: Achieve industry recognition that ASHRAE education programs are a necessary requirement for emplayment and/or advancement within the HVAC&R industry.

Responsibility: Education Council

1.5 Implement mentoring programs for members.

Background: ASHRAE mentors are persons skilled and knowledgeable in leadership positions in the Society. Because the active involvement by members in ASHRAE is essential for membership retention and professional growth, participation at all levels of Society requires knowledge of and skills in performance of ASHRAE volunteer work. Usually, these skills and job knowledge are obtained through observation, participation and onthe-job training.

A formal and structured arientation and training program using mentors will maximize a volunteer's effectiveness and con-

tribution to ASHRAE. This program should be designed to serve all levels of the Society: chapters, regions, Society committees and councils, and the Board of Directors. Each Society level should have a program for mentoring its new members and its leadership that is written, specific, usable, effective and measurable.

Measure of Completion: Implement programs for chopters, regions, Society committees and councils, and the Board of Directors, evaluate measurable results, revise programs if necessary or discontinue them if shown to not be effective.

Responsibility: Member Council

Goal 2: Ensure timely transfer of information.

Strategic Objectives

2.1 Take full advantage of electronic media to make access to ASHRAE information interactive.

Bockground: ASHRAE already provides information through electronic means, either in electronic products, such as text-based CD-ROMs, or through the Internet. Similarly, ASHRAE uses the Internet to accept information fram members.

This objective challenges ASHRAE to push beyond simply transferring its print-based publishing model to electronic media and beyond passive acceptance of electronic data. What ASHRAE envisians are information services and products which are multimedia, inter-octive, foster person to person exchange on a global basis, and allow individuals to select and choose from ASHRAE information warehouses on an as-needed basis. Electronic information delivery allows ASHRAE to move from "mass" or "broadcast" information delivery to "malecular" or "persanalized" information delivery based upon individual member needs. Because information is obtained, stored and distributed electronically, the amount of information which can be provided far exceeds amounts available in paper format. The barriers limiting transfer of technical information shall be limited to imagination and member ability to access information.

Measure of Completion: Multi-media products and database driven Internet services will be the membership's preferred means of receiving technical information from the Society and exchanging information with the Society.

Responsibility: Publishing Council

2.2 Develop and implement strategies to more quickly resolve conflicts in the development of consensus documents.

Background: There is a strong conviction that the time required to develop and revise standards is excessive. As the leader in producing standards in the HVAC&R field, ASHRAE must take steps to insure that its standards keep pace with the rapid changes that are occurring in the industry in order to remain viable in the global marketplace.

To resolve canflicts in the development of consensus documents, ASHRAE will implement electronic transfer for communication, consider revising standards under provisions which allow for only sections of stondards to be revised as needed or by dividing standards into sections for phosed public reviews. ASHRAE will olso consider revising standards only when there are compelling reasons to do so, perhaps soliciting comments on existing standards before revising them to determine the amount of revision necessary.

Measure of Completion: To meet the objective, at least one or more strategies will be identified and implemented that reduce the time required to develop and publish standards by 50%.

Responsibility: Technology Council

2.3 Improve the pracess of determining what issues require ASHRAE leadership.

Bockground: ASHRAE has interest in expanding and improving its involvement in global issues. The Society currently develops position statements and policy papers on issues identified primarily within ASHRAE's membership. This program mostly reacts to requests for action. ASHRAE can expand and imprave its involvement by developing a program which proactively identifies issues which are appropriate for ASHRAE involvement.

Possible efforts to expand this activity include a formal review of the present issues program and development of additional programs to initiate the pracess of identifying issues where ASHRAE should provide leadership

Measure of Completion: Operate an expanded issues program that initiates identification of issues and improves the process of developing the necessary technical informatian, position statements and policy papers.

Responsibility: Executive Committee

2.4 Coordinate ASHRAE publications to imprave consistency of published information.

Bockground: ASHRAE disseminates knowledge. It is the most important thing ASHRAE does, and it is essential that the most current information is published in a timely manner. ASHRAE information, particularly in the Handbook, is often referred to in building codes and in documents published by others. Current ASHRAE publications should have information that is consistent, abjective, of the highest quality, and that represents the "state of practice" in the industry.

Mechanisms must be addressed for insuring that conflicts between Handbaok chapters, stondards, and research results are identified and resolved when possible and appropriate. Mechanisms far insuring that the latest research results are not only available, but utilized as soon as proctical, are also part of this objective.

This objective should include electronic publishing as well as print publishing or any combination of the two.

Measure of Completion: Develop and implement a procedure to identify and eliminate conflicts within ASHRAE publications. The procedure must include mechanisms for conflict resolution. By the end of the plan period, there should be no more than two conflict areas per year identified by others that are not already known to exist by ASHRAE and that are not already being actively resolved.

Responsibility: Publishing Council

Goal 3: Respond to current and emerging HVAC&R issues.

Strategic Objectives

3.1 Increase research on emerging technologies.

Background: ASHRAE's research progrom has been highly successful in developing new information on current technologies. It has been less successful, however, in identifying and funding projects in emerging technologies, projects that have a lower chance of success but a greater potential for payoff. The percentage of research expenditures in this orea have consistently follen short of funding goals.

There are several possible reasons for this. One is that procedures for identifying research opportunities in emerging technologies are inadequate. Another is that current policies priaritizing research proposals — especially unsolicited proposals — need revision. And last, and perhaps most important, is that too few high quality proposals are being received in this area, suggesting that communication of the Society's research goals to the broader research community needs to be strengthened.

Measure of Completian: Research expenditures on emerging technologies shall opproximately equal board-approved funding goals.

Responsibility: Technology Council

3.2 Develop and disseminate expanded knowledge regarding building energy use, the indoor environment, and general environmental impacts of buildings on human and ecological health.

Bockground: ASHRAE research on building energy use should include energy consumption resulting from the HVAC&R systems within the building, the building envelope and orientation, and the synergy between these to farm a single, whole-building system. ASHRAE research creating indoor environments which are comfortable, healthy, and productive should include analysis of chemical pollutants, lighting types and levels, sound, color, and other items that affect occupant comfort. Research in areas fomiliar to ASHRAE should be pursued until all opportunities to gain additional, useful knowledge are exhausted. Research efforts should also investigate minimizing the resources cansumed during and pollutants resulting fram construction, operation, maintenance, and occupancy of a building.

Building a knowledge base that may become part of ASHRAE's technical committee structure and coordinating activities between TCs to develop research projects and possibly bringing new expertise to the ASHRAE membership may be required. To fulfill the abjective, activities with interested, related arganizations, disseminating research information through the many forums available to ASHRAE and increasing information dissemi-

nation timeliness will be explored.

Measure of Completion: Increase current level of activity by 35% for publishing technical information, developing new research, ond presenting programs at ASHRAE meetings and educational venues in current areas of technical expertise. Nurture new areas of expertise related to fields in which ASHRAE currently excels and increase research efforts, publications, and presentations in these areas by 35%.

Responsibility: Technology Council

3.3 Expand the development and dissemination of knowledge regarding refrigeration processes and applications.

Background: Refrigeration is more important in many parts of the world than air conditioning, yet ASHRAE's involvement in this area has been shrinking. ASHRAE must actively involve mare refrigeration people to insure that knowledge in this area is available and expanded through new research, technical presentations, papers at its meetings, special publications and Handbook.

TCs and TGs are the key to the success of this effort. Increased activities and programs by the existing refrigeration-oriented TCs and TGs and the addition of new committees that expand the scope of ASHRAE's activities in formation on current and emerging HVAC&R issues. This area and the Society's influence are necessary to achieve this objective.

Some ASHRAE members are already actively involved with refrigeration societies worldwide. Cooperative activities with other societies must be expanded and a comprehensive plan developed to make ASHRAE attractive to individuals with refrigeration interests, from technicion level to engineering and research levels.

Measure of Campletion: Double activities and programs by existing TCs and new TCs to broaden the influence of ASHRAE.

Responsibility: Technology Council

3.4 Develop programs with Associate Societies and other worldwide technical organizations that promote technology development and transfer.

Background: The development of new HVAC&R technology occurring outside North Americo is expected to continue increasing in the foreseeable future. At the same time, the impact of all HVAC&R technology—both current and emerging—is felt worldwide, affecting many countries and many morkets. As a world leader in HVAC&R technology, ASHRAE must have the capability of identifying, developing and transferring technology on a worldwide bosis. One way of daing this cost-effectively is by working with ASHRAE's Associate Societies and with other technical groups that have unique capabilities in technology development and transfer outside Narth America.

Measure of Completion: Develop at least one formal agreement with an Associate Society or other industry group to establish programs in each of the following areas: co-sponsored research, international technical canferences, and cooperative publication soles and distribution.

Responsibility: Executive Committee

3.5 Create a greater awareness of current and emerging HVAC&R issues among the engineering and scientific communities and the general public.

Background: There is a need to improve the way ASHRAE provides information on current and emerging HVAC&R issues to the industry, related organizations and the general public. Information should be provided on more issues, more often and to a wider audience.

Possible efforts to improve distribution of information include establishing links between ASHRAE's technical committees and the technical structures of other organizations, putting ASHRAE position papers on the Internet, expanding use of videotapes, conducting sessions at chapter programs and ot winter and annual meetings, and utilizing the news media and autside exhibitions and conventions on a formal and regular basis.

Measure of Completion: Implement a program that proactively provides information on current and emerging HVAC&R issues.

Responsibility: Technology Council

Goal 4: Provide for diverse global growth.

Strategic Objectives

4.1 Develop models for a global ASHRAE which provide a basis for dialog on the Society's direction for promoting global growth.

Background: It has been proposed that ASHRAE should become a truly global society, implying that the present ASHRAE is not global and that basic structural and organizational changes would be necessary to achieve this objective. The present ASHRAE can be defined, arguably, as a North American society that has some members and chapters residing outside of North America. There is, however, no common vision of what a "global ASHRAE" might be, and without such a vision, ochieving diverse global growth will be difficult.

To meet this objective at least two, and preferably three or more, distinctly different models shall be developed. The models shall describe in broad terms both the Society's volunteer and stoff organizations, their responsibilities with respect to representing and serving the membership, their geographic locotions, and their reporting relationships. The advantages and disadvantages of each model shall be summorized. Also, the assumptions mode regarding the Society's future demographic mokeup, upon which the models are based, shall be specified.

Measure of Completion: The preferred model will be recommended to the Board of Directors for approval by June 2000.

Responsibility: Long Range Plonning Committee

4.2 Increase joint activity with other technical groups at chapter and regional levels.

Background: Many chopters have found that holding joint meetings or other co-sponsored activities increases chapter meeting attendance and helps to recruit new members. Such co-sponsorship also broadens ASHRAE member oworeness of the technical community and enhances public awareness of ASHRAE. Joint efforts at the regional level will hove similar benefits and enhance attendance at CRCs.

Measure of Completion: Include in the Monual of Chapter Operations and the CRC Manual provisions for joint activity of at least one chapter level and one regional level function annually.

Responsibility: Regions Council

4.3 Expand avenues of growth in both membership and services.

Background: ASHRAE needs to be more dynamic and aggressive in membership growth and services. This involves seeking out potential members from ather interested, but not always related, organizations and societies on a global basis, identifying new markets for our services, and expanding these services to meet the needs of a more diverse and broader membership. This will require making ASHRAE's systems far membership retention and growth less complex and developing a flexible system for obtaining member ideas and feedback on the quality, effectiveness and relevance of our services.

Achieving this objective includes identifying potential member growth by geography, demographics, employment and gender. Simplified membership requirements will be cansidered. ASHRAE will also identify and contact related and non-related organizations within and autside of the U.S. and Canada concerning

membership in or joint membership in ASHRAE. Campaigns should be developed to identify new members, to retain current members and to re-interest former members. Also initiated should be a flexible system which identifies member needs and evaluates services developed on an ongoing basis.

Measure of Campletion: Implement membership recruitment and retention plans based on membership feedbock which result in documented membership growth and which con be shown to have altered the demographic character of the Society, making ASHRAE more diverse and with brooder technical interests.

Responsibility: Member Council

4.4 Increase public awareness of ASHRAE's contributions to society.

Bockground: According to ASHRAE surveys, more than 80% of persons in the HVAC&R industry who are not members of ASHRAE are oware of the Society. But the general public knows virtually nothing of ASHRAE's contributions to improving the quality of life.

The intent of this objective is to develop public relations programs which first define whot publics ASHRAE wishes to reach and second which promote ASHRAE's expertise related to issues of public cancern, such as indoor oir quality, energy, global warming, and refrigerent use. Specifically, ASHRAE must establish a process where committees identify newsworthy activities, where the services ASHRAE provides to the public are publicized, and where topical issues can be effectively addressed through spokespeople and other means in a timely fashion so that technically correct information is made known to the news media and to government. Greater awareness of ASHRAE's relevance in the world will result in greater acceptance of ASHRAE positions, promotion of membership, and greater use of Society products and services.

Measure of Completion: A public relations program either in-house or external will be created. This program will promote to the public globally what ASHRAE does and how it creates — through the expertise of its members — "Technology for a Better Environment."

Responsibility: Executive Committee

Appendix

Status of Objectives from Previous Plan

The first ASHRAE Strategic Plon was approved by the Board of Directors in 1985. Subsequent plans were approved in 1988 and in 1992. The listing belaw documents how objectives fram Strotegic Plan III (1992 through 1997) were resalved.

ASHRAE shall pramate growth of membership and technalagy only in the disciplines as prescribed in the Certificate af Cansalidation and the Bylaws.

- Identify the disciplines in the ASHRAE membership universe. Primary responsibility ta Member Council with Technology Cauncil as support 1.1 group. BOD approved as complete 94-01-26.
- Identify the technologies included in the ASHRAE membership universe. Primary responsibility to Technology Cauncil with Member Cauncil as 1.2 support group. BOD approved as complete 96-06-27.
- Identify organizations suitable for merger serving the same disciplines as ASHRAE. Primary responsibility to Member Cauncil. BOD approved as 1.3 complete 94-06-30.
- Develop and implement a plan to increase membership from each discipline in the ASHRAE membership universe. Primary responsibility to 1.4 Member Council. BOD approved as complete 97-01-30.
- Develop and implement a plan to incorporate new technologies into Society technical activities. Primary responsibility to Technology Council. 1.5 BOD approved as complete 96-06-27.
- Develop and implement a plan to merge with organizations serving the same disciplines as ASHRAE. Primary responsibility to Executive 1.6 Committee. BOD approved as complete 96-02-18.
- Develop and implement a plan to attract non-members from the disciplines in the ASHRAE universe to Society meeting technical activities, 1.7 including promoting participation in winter meeting technical programs by ASHRAE/ARI exposition attendees. Primary responsibility to Member Council. BOD approved as complete 95-06-28.

ASHRAE shall assess and respond to internal and external demographics.

OBJECTIVES

- Determine the elements of demagraphic profiles which will be useful to ASHRAE. Primary responsibility to Member Council. BOD approved as 2.1 complete 94-06-30.
- Develop demographic profiles of the ASHRAE membership universe. Primary responsibility to Member Council. BOD appraved as complete 94-2.2
- Identify what ASHRAE should do ta respond to internal and external demographics. Primary responsibility to Member Council. BOD approved 2.3 as complete 95-06-28.
- Develop and implement a plan to respond to the issues raised by internal and external demographics. Primary responsibility to Member Council 2.4 with Education Council as suppart group. BOD approved as complete 97-07-03.

ASHRAE shall develop a comprehensive continuing educational program.

OBJECTIVES

- Identify the continuing education needs of the disciplines and technologies included in the ASHRAE membership universe (as defined in Goal 1). Primary responsibility to Education Council. BOD approved as complete 95-06-29.
- Develop and implement a continuing education program to meet the needs of the ASHRAE membership universe, including the marketing and 3.2 delivery of the program. Primary responsibility to Education Council. BOD approved as complete 95-06-29.

ASHRAE shall provide a scholarship/fellowship program leading to engineering degrees for persons planning to enter the engineering profession.

OBJECTIVES

- Identify the effectiveness of scholarships and fellowships as incentives to encaurage individuals to enter engineering. Primary responsibility to Education Council. BOD approved as complete 94-06-30.
- Identify and evaluate incentives for encouraging enrollment in engineering curricula. Primary responsibility to Education Council. BOD ap-4.2 proved as complete 96-02-22.
- Develop and implement a plan to provide programs which encourage enrollment in engineering curricula. Primary responsibility to Education 4.3 Council. BOD approved as complete 96-02-22.

GOAL 5

ASHRAE shall assist and cooperate with other technical and scientific organizations to influence pre-college education in mathematics and science.

OBJECTIVES

- Develop and implement a plan which expands participation with other engineering and scientific organizations in pre-college educational 5.1 efforts beginning with kindergorten. Primary responsibility to Education Council. BOD approved as complete 94-06-30.
- Identify, fund and support programs which encourage quality in the teaching of mathematics and science. Primary responsibility to Education Council. BOD approved as complete 96-02-22.
- Identify, fund and support youth programs which develop skills and learning in mathematics and science. Primary responsibility to Education Council. BOD approved as complete 96-02-22.

ASHRAE shall make available electronic retrieval of technical and orchival database material to members, the technical and scientific communities and the general public.

OBJECTIVES

- 6.1 Determine what ASHRAE information should be transferred electronically. Primary responsibility to Publishing Council with Technology Council as support group. BOD opproved as complete 94-06-30.
- 6.2 Develop and implement a plan to deliver information and programs electronically. Primary responsibility to Publishing Council with Technology Council as support group. BOD approved as complete 95-02-02.

GOAL 7

ASHRAE publications, whether hard copy or electronic, shall contain high quality, reliable and timely technicol information.

OBJECTIVES

- 7.1 Develop a plan to ensure that the content of all ASHRAE publications is reviewed on a continuing basis for useful life, quality and reliability. Primary responsibility to Technology Council with Publishing Council as support group. BOD approved as complete 96-06-27.
- 7.2 Determine publishing formats which will ossure that ASHRAE information is current, accessible and satisfies user needs. Primary responsibility to Publishing Council. BOD approved as complete 94-06-30.
- 7.3 Develop and implement o plan to ossure that ASHRAE publications are current, accessible and satisfy user needs. Primary responsibility to Publishing Council. BOD approved as complete 95-02-02.

GOAL 8

ASHRAE shall establish cooperative research activities, including cooperatively funded research projects, with qualified international societies in related technologies and with other organizations serving the "allied arts and sciences."

OBJECTIVES

- 8.1 Identify organizations and interests for joint venture research. Primary responsibility to Technology Council with International Committee as support group. BOD approved as complete 97-01-30.
- 8.2 Develop and implement a process for cooperative research activities. Primary responsibility to Technology Council. BOD approved as complete 96-06-27.

GOAL 9

ASHRAE shall engage in research on emerging technologies and unique opplications of existing technologies.

OBJECTIVES

- 9.1 Develop and implement a plan that identifies and promotes emerging technologies related to the needs of ASHRAE. Primary responsibility to Technology Council. Not approved as complete by BOD as of April 1997.
- 9.2 Develop and implement o plan to determine the portion of the ASHRAE research program to be dedicated to emerging technology. Primary responsibility to Technology Council. BOD approved as complete 96-06-27.
- 9.3 Develop and implement a plan to identify and promote the unique applications of existing technologies. Primary responsibility to Technology Council. BOD approved as complete 96-06-27.

GOAL 10

ASHRAE shall create on outreach program to communicate to management and leadership in industry and ocademia the benefits of participation in ond support of ASHRAE.

OBJECTIVES

- 10.1 Identify the benefits to employers of investing in ASHRAE participation. Primary responsibility to Member Council with Regions Council as support group. BOD approved as complete 94-01-26.
- Develop and implement a program to communicate to management and leadership the benefits of participation by employees in ASHRAE. Primory responsibility to Member Council with Regions Council os support group. BOD approved as complete 96-06-27.
- 10.3 Develop and implement a plan to recognize contributions of employers for support of ASHRAE. Primary responsibility to Regions Council with Member Council as support group. BOD approved os complete 95-02-01.

GOAL 11

ASHRAE shall establish policies and procedures that will assure continuation of volunteerism.

OBJECTIVES

- 11.1 Identify what ottracts and discourages volunteers to contribute time and other resources to ASHRAE. Primary responsibility to Regions Council. BOD opproved os complete 96-06-27.
- 11.2 Identify the Society's use of and need for volunteers at all levels. Primary responsibility to Member Council. BOD approved as complete 95-06-28.
- 11.3 Develop and implement o plan for effective volunteer participation. Primary responsibility to Regions Council with Technology Council os support group. BOD approved as complete 95-02-01.
- 11.4 Develop and implement a plan to recognize the contributions of volunteers. Primary responsibility to Member Council with Regions Council and Technology Council as support groups. BOD approved as complete 95-06-28.

GOAL 12

ASHRAE shall establish an endowment program intended to make a substantial fiscal contribution to the operation of the Society.

OBJECTIVES

- 12.1 Establish a general endowment foundation for support of the Society. Primary responsibility to Executive Committee. BOD approved as complete 94-01-23.
- 12.2 Develop and implement a plan to create and fund endowments for specific uses. Primary responsibility to Executive Committee. BOD approved as complete 95-01-29.

GOAL 13

ASHRAE shall evaluate and restructure, as necessary, the technical committee organization to respond to current and emerging technologies.

OBJECTIVES

- 13.1 Define the necessary Society research and technical structure as it relates to Goal 1, the ASHRAE membership universe, and Goal 9, emerging technologies. Primary responsibility to Technology Council. In progress.
- 13.2 Develop and implement a plan to restructure the Society's research and technical organization as it relates to the ASHRAE membership universe (Goal 1) and emerging technologies (Goal 9) identified in Objective 13.1. Primary responsibility to Technology Council. In progress.

GOAL 14

ASHRAE shall develop a functional international support structure.

OBJECTIVES

- 14.1 Define the diverse needs of ASHRAE's worldwide membership. Primary responsibility to Regions Council with International Committee and Member Council as support groups. BOD approved as complete 97-01-29.
- 14.2 Identify a structure to serve a worldwide membership. Primary responsibility to Regions Council with International Committee and Member Council as support groups. BOD approved as complete 96-06-27.
- 14.3 Develop and implement a plan to structure the Society so that the needs of the worldwide membership are satisfied. Primary responsibility to Regions Council with International Committee and Member Council as support groups. BOD approved as complete 96-06-27.

GOAL 15

ASHRAE shall implement a policy and promote utilization of SI units by the HVAC&R and allied industries.

OBJECTIVES

- 15.1 Develop and implement a plan that will promote and assist the HVAC&R and allied industries in implementing the use of SI units by the year 2000. Primary responsibility to Education Council with Publishing Council and Technology Council as support groups. BOD approved as complete 95-06-29.
- 15.2 Develop and implement a plan to use only SI units in all ASHRAE publications by the year 2000. Primary responsibility to Publishing Council with Technology Council as support group. BOD approved as complete 95-02-02.

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