

Meeting New Challenges

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ASHRAE President-Elect

THE 1960's and '70's introduced an age in which institutions of all types were challenged with regard to their responsibility and authority. No less dedicated a group than the archaeological historians suffered a rebellion by part of their membership: the dissenters insisted on more social action. Far removed as this incident may be, it does remind ASHRAE members that our objectives should be constantly reviewed and redefined where required.

ASHRAE members have been fortunate in being part of a group of industries which have shown remarkable growth during the last generation. This constant expansion was deemed highly laudable during the heyday of Keynesian economics, when continued growth appeared to be the only route to the well-being of civilized countries.

ASHRAE has been well-prepared to provide guidance for expansion of activities and services to members. Research projects have been effectively planned to supply basic information for our growing technology; our publications serve to disseminate information to the industries we represent; our Standards provide guideposts; and our many chapters are not only the "grass roots" for Society operations but have become the focal points of industry in each locale.

Present attitudes toward the ecology bring new challenges. The air-conditioning and refrigeration plant, once viewed as the provider of the good environment (inside), has already been accused of being an energy-devouring monster, adding to the levels of pollution in our biosphere (outside).

Various fuel proponents, who wooed our designers three years ago, are presently predicting dire shortages; some fuels are even now unavailable.

Several very prestigious research groups recently conducted computer simulations, using models of world economy, technology, and environment (outside). The termination of the runs occurred when the simulation showed that the earth would become uninhabitable. Conclusions of the dif-

ferent studies varied as to time span, but none gave the human race long to live.

Discerning critics of these studies have noted that the formulas used for growth were of an exponential nature, reflecting increases of mushrooming proportions, while advances in technology were described as linear functions, proceeding at a steady pace. It is unlikely that these doomsday predictions will materialize on schedule, but it is also inevitable that heavy social and political pressures will develop to modify the ominously predicted trends. Some of these trend changes are already evident—school enrollment in many areas is decreasing and "zero population growth" has progressed from a catch word to an attitude among many young adults.

It is the other trend curve that concerns us more. Will engineers and scientists be able to develop cures which are not worse than diseases? Will technology "catch up" and will the fruits of technological development be adequately explained to, and accepted by, the public? The public must ultimately pay for most of the indicated environmental improvements, through increased taxes, product prices and costs of facilities.

These issues will undoubtedly receive expanding publicity in the news media and industry will become increasingly involved. The debate may become painful. "News" will likely be made by extremists, while scientists will tend to hedge. Most engineers, if they are asked to accomplish a mission rapidly, find it necessary to act on the basis of imperfect knowledge, and such conclusions are often difficult to defend. It will be necessary to properly communicate the conclusion of the responsible segment of the engineering community.

ASHRAE members have been encouraged to become involved in their communities as aware citizens, and, when appropriate, as experts in fields involving community welfare. Political history has taught us that technologists cannot tell the public how to act, but must properly present information which can be absorbed quickly and acted upon wisely.

If ASHRAE does not continue to provide leadership for properly presenting information—to individual members, to our chapters and regions, and to the public—then the industries we serve will inevitably be hurt by irresponsible reproach. We should disabuse ourselves of the notion that it can't happen. It has. Thus it is imperative that ASHRAE continue to grow and effectively perform its many vital functions. These functions must include "meeting new challenges"—my theme for the coming year.

It has traditionally been the privilege of the incoming President of ASHRAE to select a particular theme for his year in office. In this manner, there has been an opportunity to assign an emphasis to some special area where our goals can be implemented to respond to a particular need of the Society and its members.

It has been a challenging task in itself to reflect on the past achievements of ASHRAE, and to determine which particular aspect of endeavor to emphasize.

Fortunately, our past leadership has made provident preparation. The late Presidential Member Lincoln Bouillon (1966) was sufficiently foresighted to recognize that an increasing segment of our industry personnel must participate in ASHRAE, and our membership has had a healthy growth; William L. McGrath (1966-67) emphasized manpower development; P. N. Vinther (1967-68) consolidated the previous gains; William L. Holladay (1968-69) stressed continuing education; William G. Hole (1969-70) stimulated attention to goals that included a renewed awareness of professional ethics; Frank H. Bridgers (1970-71) was successful in getting the Society to strive for excellence; and Stanley F. Gilman (1971-72) made each member aware of the need for personal involvement.

"Meeting New Challenges" will extend to all facets of our many activities, including research, membership growth, improved services to members, expanding publications policy, and increased attention to developing technology for the benefit and survival of mankind.

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ASHRAE's Research & Technical Committee has administered a continuing and expanding program of research, including energy requirements for buildings. Various Technical Committees are also working on programs of product reliability, pollution aspects, and a myriad of other related areas.

Promotional efforts by individual chapters are supporting our growing research efforts, and this activity appears to be reaching what many of us thought to be unattainable goals.

Our members must focus and in-

tegrate their efforts so that information will become rapidly and readily available, and clearly understandable. We will have to search for methods to provide practical energy analyses and reduce energy consumption, develop systems to control apparatus at peak efficiency, pinpoint acceptable air quality in buildings, and find better methods of removing pollutants.

We must also continue to communicate the work of our Society to all its members. As each member participates to a greater extent, the benefits of that participation will become

increasingly real.

If each committee and chapter will re-evaluate its goals, and assess its performance toward these goals, the new challenges will be met successfully.

ASHRAE members—YOU—are fortunate to be involved in a segment of the environmental sciences where developments benefiting the ecology may, coincidentally, reduce the cost of processing the staff of life and of living in comfort. What better way to contribute to the survival of this world!

Program Finalized for Compressor Technology Conference July 25 to 27

THE program has been finalized for the Compressor Technology Conference, July 25 to 27, at Purdue University, West Lafayette, Ind. Papers are scheduled on recent advances in theoretical and experimental technology research. Some general reviews of all aspects of compressor technology are also planned, especially current design and testing practices.

The Conference is sponsored by the Ray W. Herrick Laboratories of Purdue's School of Mechanical Engineering, in cooperation with ASHRAE and the Central Indiana Section of the American Society of Mechanical Engineers (ASME).

Sessions and Chairmen are as follows:

Compressor Types & Design—Arne Frank, Head, Compressor Design, Trane Co, La Crosse, Wis.

Laboratory Techniques, Instrumentation, & Measurements—Dr. Raymond Cohen, Director, Ray W. Herrick Laboratories.

Computer Applications—Dr. Donald A. Coates, Computer Science & Technology Dept, Research & Engrg Center, Whirlpool Corp, Benton Harbor, Mich.

Valve Design—Dr. Derek Woollatt, Manager, Research Laboratory, Worthington—CEI Inc, Buffalo, N.Y.

Capacity Control—A.B. Newton, Vice President & Director of Research, York Div, Borg-Warner Corp, York, Pa.

Protective & Starting Devices—Lyle E. McBride, Jr., Manager, Control Products Advanced Development, Metals & Controls Div, Texas Instruments, Attleboro, Mass.

Lubrication & Wear—Dr. Keshav S. Sanvordenker, Tecumseh Products Co, Research Lab, Ann Arbor, Mich.

Materials—Dr. W. McGahan, Research Lab, Ingersoll-Rand Co, Princeton, N.J.

Chemical Considerations—Dr. H.O. Spauschus, Manager, Physical Science Lab, General Electric Co, Louisville, Ky.

Special Design Problems Such as Shaft Seals—Dr. C.K. Powell, Manager of Engrg, Engine-Process Compressor Div, Ingersoll-Rand Co, Painted Post, N.Y.

Stress Analysis, Life, & Field Testing—Dr. J.F. Hamilton, Professor, Ray W. Herrick Laboratories.

Safety & Government Regulations—Arthur E. Meling, Director of Government Relations for ARI, Arlington, Va.

System Design Considerations & Application Limitations—William Freije Jr., William F. Freije Inc, Mechanical Contractors & Engrs, India-

napolis, Ind.

Reliability & Maintenance—Robert S. Vaughn, York Div, Borg-Warner Corp, York, Pa.

Thermodynamics, Heat, & Mass Transfer—Dr. Bjorn Qvale, Laboratoriet for Energiteknik, Danmarks Tekniske Hojskole, Denmark.

Noise & Vibration Control—Dr. Peter K. Baade, Chief Engineer, Acoustics & Thermodynamics, Carrier Corp, Syracuse, N.Y.

Preceding the Conference will be a Short Course on Mathematical Analysis & Computer Simulation of Reciprocating & Rotary-Vane Compressors & Application to Design, July 24 to 25. The Short Course will be taught by both Ray W. Herrick Laboratories members and invited lecturers. Its aim is to acquaint attendees with basic modeling and programming techniques used in the computer simulation of positive displacement-type compressors.

Registration fee for the Conference is \$35; for the Short Course, plus notes, \$75. Bound Conference Proceedings are \$15 per copy.

Those interested in attending the Conference and/or the Short Course should contact Professor Werner Soedel, Ray W. Herrick Laboratories, School of Mechanical Engineering, Purdue University, Lafayette, Ind.