

IAQ

Indoor Air Quality



PROBLEM OF THE 80'S

Bahnfleth tells experts in the concerned disciplines that rational movement, not "knee-jerk reaction," is needed to solve the problem

ADIVERSE group of talented women and men from around the world presented the latest findings on indoor air quality at IAQ 86, *Managing Indoor Air for Health and Energy Conservation*, an Atlanta, Georgia, conference organized by the American Society of Heating, Refrigerating and Air-Conditioning Engineers and co-sponsored with the U.S. Department of Energy and the Environmental Protection Agency.

More than 100 experts in various concerned disciplines presented their findings, evaluations and views in conference and poster sessions during the three day meeting.

"ASHRAE believes that indoor air quality is and will remain the single most important health issue facing us in the 1980's," says Donald R. Bahnfleth, P.E., 1985-86 president of the engineering society. "Unacceptable indoor air quality can impair our health, affect our sense of well-being, and affect our productivity in terms of both lost time and loss of productive effort.

"Years ago, whenever there was a problem regarding the indoor air, we usually tried what I call 'granny's solution.' We just threw open the door or the window and brought in outside air.

"Today, we might not always want to bring in unfiltered, uncontrolled outside



President Donald R. Bahnfleth, P.E., of ASHRAE said he felt that indoor air quality will remain one of the most important health issues of the '80's. He outlined the needs in research and education at the meeting.

air. In some cities, what's outside could be worse than what's inside. Large amounts of outside air also require expending large amounts of energy for heating and cooling.

"Concern for the IAQ issue is still growing.

"The way we live today, spending more than 90 percent of our time indoors, creates the need for a better knowledge of what contaminants are present in the indoor environment and their effect on people. The issue of indoor air quality is a sleeping giant whose time has come.

"The total number of serious health effects related to IAQ in non-industrial buildings have been miniscule compared to the total building stock. But there have been enough to indicate that a problem exists. Fortunately, addressing the situation this early gives us time to move rationally. The issue does not need to be sensationalized. We do not need knee-jerk reactions."

Exchanges necessary

"We need gatherings like this, where we can present data and formulate methods of attacking the problem in the long and short term. At this point, our information is limited and those associated with a building during its life cycle need more definitive information to guide their



The 12 sessions during IAQ 86 drew attentive full houses. The audience represented a wide range of concerned disciplines in medicine, research, engineering, construction and manufacturing, as well as many countries around the world. The sessions sparked many discussions.



Dr. Sherry A. Rogers, M.D., (left) specialist in environmental medicine from Syracuse, New York, answers some questions following her presentation for Joanne Bernard (center), Sacre Coeur Hospital, St. Laurent, Quebec, and Harriet Amman of the EPA.



E.M. Sterling (left) of Theodor D. Sterling, Ltd., Vancouver, British Columbia, discusses the available means of designing and constructing energy efficient houses with improved indoor air quality with conference attendees during one of the poster sessions.



Poster sessions added to the opportunity for discussion during the three-day conference. The presentation by Randy Peltier of United Air Specialists, Inc., on particulates versus gases in the indoor environment was typical of impromptu discussions.

activity. We need more so that design professionals, engineers, architects, and interior designers can make appropriate design decisions.

"These professionals need information and guidance on materials, sources of possible contamination, and system configurations that promote energy economy, and the use of available control systems.

"The construction profession needs standards and guidelines that will define methods, techniques and practices that help avoid IAQ problems. The manufacturing community also needs standards and guidelines to assure that the materials and equipment they supply are not or do not become sources of poor indoor air quality.

"Finally, homeowners and building management professionals need guidance in operating and maintaining building systems and equipment to assure that well conceived and well constructed buildings do not become problems when put into service and are subjected to the pressures of the occupying population. To be sure, there is much technical information available today that, if applied, would mitigate against an indoor air quality problem developing. Equipment and systems are also available to provide solutions to some IAQ problems."

The future needs

"As we look to the future, ASHRAE believes that there is a need for cooperative efforts by the public and private sectors in supporting and implementing the necessary research and development programs.

"ASHRAE favors private sector initiatives in developing voluntary consensus standards, design guidelines, manuals of acceptable practice and other documents that will provide cost effective and energy effective ways of controlling the indoor environment.

The Society is fulfilling this, I believe. Many of the ASHRAE Standards already addressed indoor air quality. The most visible among them is Standard 62, *Ventilation for Acceptable Indoor Air Quality*. The standard is being revised to make it consistent with current information and technology. Standards 55, 113 and 116, which cover thermal comfort, measurement of air diffusers, and ventilation effectiveness, are directly related to IAQ.

"A responsible private sector that takes the initiative in developing such standards is the consort of public agencies. There are application research and education opportunities and needs. Among the research needs I presently see are studies dealing with the

magnitude and sources of IAQ program, health effects, productivity impact, and control measures."

Cooperation a key

"In the area of education, we should explore the sponsorship of joint programs at the grass roots level, because public awareness is needed to solve indoor air quality problems.

"Cooperation between the public and private sectors is crucial to the success or failure of attacking the problem of indoor air quality. The private sector should lead in many areas of research, but there are some areas where support for the needed research is not available except in the public sector.

"Where the profit motive is nonexistent, industry support typically does not materialize at an adequate level.

"In addition, the building industry does not have the expertise to conduct or evaluate health-related research on indoor environmental problems. Because the industry is fragmented, it cannot come together to sponsor research which involves the entire building system.

"By continuing an active participation and interest, federal and state governments can be of great assistance to everyone concerned with indoor air quality."