

# Educational Program Acclaimed by NEHA Conference Attendees

The Annual Educational Conference of the National Environmental Health Association held in New Orleans, Louisiana, June 18-23 is history, a chapter filled with memorable social events, sightseeing for first time visitors to the city, and a valuable educational experience for professional environmental health personnel who attended. Feedback from attendees attests to the high quality of speakers and the relevance of their topics. NEHA's section and committee chairpersons and workers are primarily responsible for the selection of technical area speakers, and attendees found they made excellent choices.

The recognition of peer excellence has always been an important function of this association and a stimulus for its professional members. One of the original premises of the organization is to promote and uphold professional standards and ethics, and proper recognition is a means of achieving this purpose. To that end, the Walter S. Mangold Award was established in 1956, first presented to Professor Mangold, who was an example of what future recipients should try to attain, and continues to be the Association's highest honor for a member. The 1982 Mangold Award was presented to Vernon Slou-

lin, nominated by the Montana affiliate.

Other association awards are the A. Harry Bliss Editorial Award which went to long-time reviewer and author, Harold George Scott, Ph.D.; the Presidential Certificate of Service presented to William G. Walter, Ph.D., editorial director for the Journal; NEHA Service Awards were presented to outgoing regional vice presidents. The Food Protection Section award went to David Hartley. The Hancor Award for excellence in on-site wastewater management was presented to Steve Steinbeck of North Carolina.

## Vernon Sloulin Wins Mangold Award

Vernon E. Sloulin, Chief, Food and Consumer Safety Bureau, Montana State Department of Health and Environmental Sciences, Helena, has been active as a professional sanitarian for the past 32 years, having earned a bachelor's degree at Montana State University and a Master of Public Health from the University of North Carolina at Chapel Hill.

Vern has been continually involved in environmental and public health organizations, affiliates and committees, serving all offices of the Montana Environmental Health Association.

He has been consistent in promoting the Sanitarian profession, and his tireless efforts have convinced local governments of the value of employing sanitarians. He was instrumental in the development and passage of a

mandatory Sanitarian's Registration Act for Montana, and in the success-

### VERNON E. SLOULIN



Vernon Sloulin, Missoula, Mont., smiles proudly at receiving 1982 Walter S. Mangold Award. Presenting was Sam Stephenson, Lansing, Mich., 1976 award winner.

ful defense of the Act during Sunset Review in 1982.

Vern has played a key role in upgrading Montana's continuing Sanitarian training program and worked with Montana State University to develop 31 bi-annual training conferences.

In addition, Vern works with community planners, in his church and in youth activities.

In the nominations document, the Montana Environmental Health Association said, "Vernon is a modest individual who prefers to stand aside and see others reap the rewards resulting directly and indirectly from his efforts. He has guided the development of professional sanitarian services in Montana and several adjoining states to a level of which we are all proud."

## Harold G. Scott Gets A. Harry Bliss Award



Harold G. Scott, Ph.D., New Orleans, La., (left) was recipient of the Journal's A. Harry Bliss Editorial Award, proudly presented by William G. Walter, Ph.D., the Journal's Editorial Director.

### HAROLD GEORGE SCOTT

Harold George Scott, Ph.D. is an author of published articles in, and a reviewer of articles for, the *Journal of Environmental Health* since 1963. He is currently a consulting scientist, having retired from the U.S. Public Health Service; he also is a lecturer and former professor of tropical medicine at Tulane University. He was director of environmental health for the city of New Orleans for several years. He has written extensively and is well known to environmental health personnel.

### Past Presidents' Award

#### JAMES HENSELY

was honored as an unsung hero by the past presidents of NEHA and particularly cited for his work in preparing a series of continuing education lessons that were published in the *Journal of Environmental Health*, for scoring the returned tests and reporting to persons who sent in the answers. Hensley, an employee of the U.S. Public Health Service, has long been a promoter of professional development for the Sanitarian. Illness prevented him from receiving this deserved award at the New Orleans meeting.

## Emil Chanlett Is Snyder Awardee

The joint NEHA/National Sanitation Foundation Walter F. Snyder Award is given annually for outstanding accomplishment in the field of environment, notable contributions to public health and the quality of life, demonstrated capacity to work with all interests in solving environmental problems, for knowledge and proficiency in utilizing voluntary standards to obtain environmental objectives, and for leadership in securing action in behalf of environmental goals. The 1982 Snyder Award went to Emil Chanlett, retired professor of environmental engineering at University of North Carolina, author of *Environmental Protection*, and chairman of NEHA's Air, Land and Water Section.



Emil Chanlett, Chapel Hill, N.C. received the NSF/NEHA Walter F. Snyder Award. He and Doris Snyder, widow of Walter, proudly show off the award trophy, the beautiful Award clock.

### EMIL T. CHANLETT

Emil T. Chanlett, professor emeritus, University of North Carolina, Chapel Hill was lauded at the 1982 Annual Conference for his 44 year career in environmental health as professor, author, lecturer, expert consultant and active participant and contributor to many professional organizations. The Snyder presentation said that Professor Chanlett has devoted his life to the preservation, conservation and improvement of man's

environment after earning a Master's degree in Sanitary Engineering in 1941. He has served worldwide as a consultant for the World Health Organization, U.S. Agency for International Development, the Institute of Inter-American Affairs, among others, as well as serving in a number of capacities at the University from 1946 until his retirement in May 1981. To persons in the field, he is probably best known for his book, *Environmental Protection*, and his teaching.

## Dave Hartley Named Industry Sanitarian



The Food Industry Sanitarians gave just reward to David E. Hartley, NAMA, Chicago, Ill., for his many years of service. Harriet Oyler, NABISCO, East Hanover, N.J., made the presentation.



LaReine Hatch scholarship winners were John Odisio, Oregon State; Charles Hazle, Indiana State; Patrick Gavigan, Cal State/Fresno; Gail Mezera, University of Wisconsin/Eau Claire. One awardee took his home; others could not attend.

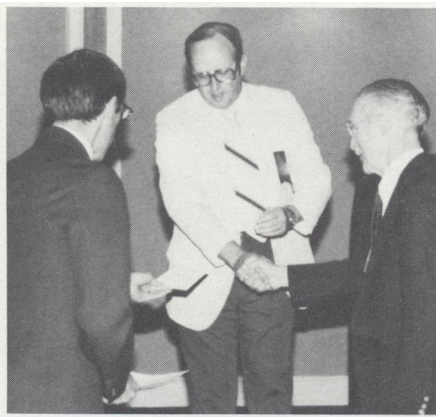
## John Nordin Gets Academy Acclaim

The American Academy of Sanitarians' Calvin Wagner Award was presented to John Nordin of the state of Washington. This award was made possible by former Surgeon General, Carruth Wagner, a memorial to his brother, and consists of a plaque and monetary award. It is presented to an Academy member who has achieved recognizable performance in the field.



The American Academy of Sanitarians lauded John Nordin, Seattle, Wash., with presentation of Davis Calvin Wagner Award. Joe Verrone, Washington, D.C. made the presentation.

## Walter Recognized For Editorial Directorship



Larry Krone, left, and Boyd Marsh, center, recognize Dr. William Walter for his untiring effort as Editorial Director.

## Steve Steinbeck Gets On-Site Hancor Award

Steve Steinbeck of North Carolina received the 1982 Hancor Award (Cover photo) for his work in On-Site Wastewater Management, benefiting the professionals and public throughout the nation. The Hancor company discontinued this award following the 1982 presentation.

# BOARD OF DIRECTORS

The National Environmental Health Association's Board of Directors met June 14 and 18, 1982 in New Orleans, Louisiana to try to resolve the serious questions of Who are we? and What shall we be? Other concerns are NEHA's role in credentialing and continuing education and how NEHA can be more effective while solving the problems of declining membership and rising operating costs.

## Headquarters Stays in Denver

The Board of Directors defeated the effort to move the NEHA headquarters to the Washington, D.C. area and also a motion to study moving to another city.

The Board passed a motion limiting the time frame for future annual conferences to the third or fourth week of June.

## Registration Programs

A motion was passed authorizing the Executive Committee to evaluate state registration programs for compatibility with NEHA standards, to study the impact of NEHA registration on state programs, and to assure that NEHA augments rather than replaces state registration programs.

## Resolutions Adopted

A resolution was adopted to commend Lawrence J. Krone, Ph.D., who served as Executive Director of NEHA from November, 1977 through August 13, 1982. Dr. Krone became Director of Delaware's Bureau of Environmental Health on September 1, 1982.

## Toxic Substances

The Board passed a Resolution calling for NEHA to formally recognize the seriousness of the Toxic and Hazardous Substances Problem and to attempt to develop a logical approach in assisting field environmental health personnel in their local efforts to deal with this environmental

health hazard. The Resolution further called for NEHA development of a national effort to reduce red tape in investigation and cleanup efforts and increase communication lines with local environmental health personnel and the federal and state agencies.

## Shellfish Standards

A resolution was passed calling for the National Environmental Health Association to support a shellfish sanitation program that is equitable and consistent nationwide and that NEHA support the study and inquiry by the National Shellfish Organization Study Committee and support the organization of a national shellfish conference to establish equitable and consistent sanitary controls for shellfish that can be adopted nationwide.

## Nominating Election

The nominating election resulted in the candidacy for 1983 mail ballot of George Morris, Dousman, Wisconsin and Helene Uhlman, Gary, Indiana, to run for Second Vice President. Joseph Walsh, Beverly, Mass., current second vice president will be the candidate for first vice president; and Richard Rowe, Columbia, S.C. will be the candidate for president-elect. Phil Kirkwood, Lansing, Mich., is now president-elect and will automatically become president at the 1983 annual meeting in Norfolk, Virginia. Dates are July 9-14.



Changing the Guard—Trenton Davis, Dr. P.H., Greenville, N.C. gives Boyd Marsh, right, the symbolic gold watch as he turns the reins over to Trenton.

pleted. Under this project, the Self-Paced Modules were developed. Terrence Remigio did most of the work on this project, and he now has a quick printing business in suburban Aurora, Colo. His administrative assistant, Susan Shallcross, is taking a vacation in New Jersey and did not have future plans at the time of her departure. Michael Allegretto was a headquarters staff member who worked half days for 2½ years on our project to develop fact sheets for developing countries through the Institute for Rural Water and funded by the U.S. Agency for International Development. That project was completed this spring and Mike edited the final drafts of the self-paced modules before they went to the printer. Mike says he is taking three months off and may decide on a more active type of work.

The headquarters office space has been reduced by half because of staff reduction. We moved the door down the hall a bit and have our library now visible and in our reception room. It looks scholarly and professional. A few touches of decorating and we will be settled in. Immediate action includes building membership, distributing the self-paced modules, a bigger and better annual educational conference with a few new twists, reinstating our placement referral, and providing support for the officers and members of NEHA. Stop in for a visit, or call if you have a need, comment or suggestion. We'll be happy to hear from you.

## NEHA Has New Group Life Insurance Program

The National Environmental Health Association Member's Group Term Life Insurance Program has been improved significantly. This has been done in cooperation with our administrator, William M. Mercer, Inc., and Reliance Standard Life Insurance Company.

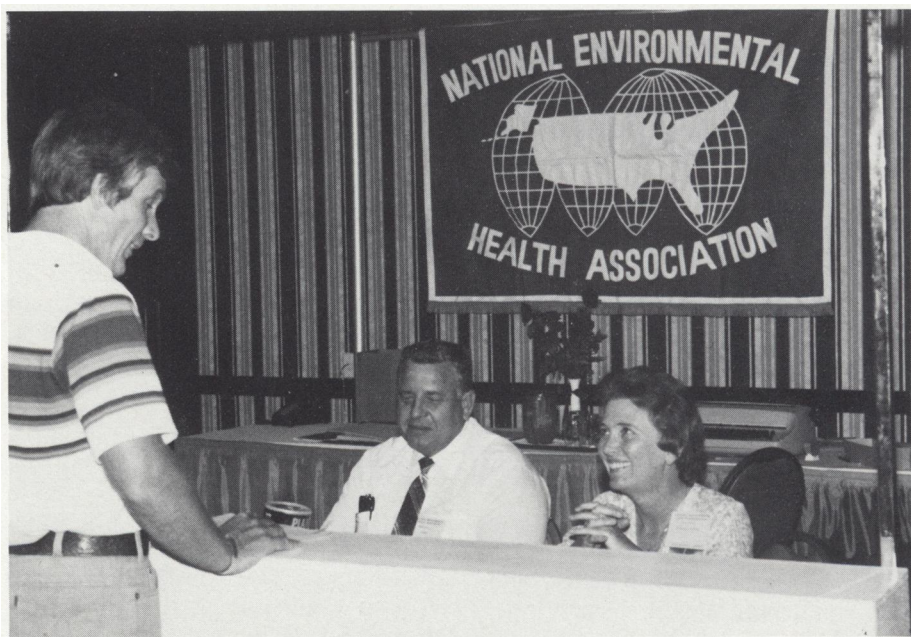
If you as a member of NEHA were covered previously, you should have already received the new information. For those who haven't participated before, watch your mail; details will be coming soon.

If you wish to have further information about this offer, call William M. Mercer, Inc., Administrator Toll free 1-800-227-4316. In California 1-415-393-5777.

## Louisiana Recognition

The story of the annual conference is not complete without proper recognition of the efforts of the host affiliate. The Louisiana Environmental Health Association did a commendable job. The Mississippi River Boat Cruise was an entertainment highlight. Host members who must be mentioned are Steve Lam, president of the Louisiana affiliate; B.J. McConathy, past president, who ran at least a thousand errands to smooth out facility and other operational snags; Cliff Murphy, kingpin in pro-

viding the entertainment; Teda Beaudreaux, who handled children's activities; Jim Balsamo, in charge of public relations and VIP's. A very important function—registration of conferees—was capably and pleasantly handled by Frank and Elgie Dautriel. Kathy Luizza helped in the NEHA office and Wesley Taylor wielded audio-visual equipment. NEHA's appreciation is extended to these people and others in the affiliate not specifically mentioned. It couldn't have happened without you.



Registration was a smooth operation with Frank and Elgie Dautriel at the steering wheel. Regional Vice President, Norm Covell, of Fresno, Calif., checked in and received a welcoming smile.



Steve Lam and two of his "lovelies" were a tremendous help in staging the successful New Orleans conference.

# National Environmental Health Association

## 1982 Exhibitors

**Advanced Drainage Systems, Inc.**  
3300 Riverside Drive  
Columbus, OH 43221

**Aqua-Vend**  
6060 N. Figueroa St.  
Los Angeles, CA 90042

**Bio-Lab, Inc.**  
P.O. Box 1489  
Decatur, GA 30031

**"Bugs" Burger Bug Killers, Inc.**  
P.O. Box 524064  
Miami, FL 33152

**CMS Rotordisk Inc.**  
5266 - 12 General Road  
Mississauga, Ontario L4W 1Z7  
Canada

**Dorex, Inc.**  
121 Ontario St.  
Frankfort, IL 60423

**J. T. Eaton & Co., Inc.**  
1393 Highland Rd.  
Twinsburg, OH 44087

**LaMotte Chemical Co.**  
Box 329  
Chestertown, MD 21620

**Mars Air Doors**  
114 Sheldon St.  
El Segundo, CA 90245

**William M. Mercer, Inc.**  
650 S. Cherry St., Suite 540  
Denver, CO 80222  
(NEHA's Insurance Carrier)

**Microphor, Inc.**  
452 East Hill Road  
Willits, CA 95490

**National Automatic Merchandising Assn.**  
7 South Dearborn St.  
Chicago, IL 60603

**National Sanitation Foundation**  
3475 Plymouth Road  
Ann Arbor, MI 48105

**National Stewart Sandwiches Assn.**  
P.O. Box 309  
Harvard, IL 60033

**Purex Pool Products**  
18400 E. Mohr Ave.  
Industry, CA 91749

**The Soap & Detergent Association**  
475 Park Ave. South  
New York, NY 10016

**Theford Corporation**  
7101 Jackson Road  
Ann Arbor, MI 48103

**Transamerica Delaval/Purestream  
Waste Treatment Division**  
1450 Dixie Highway  
Covington, KY 41011

**U.S. Chemical Corporation**  
P.O. Box 366  
Watertown, WI 53094

**Tulane University Department of  
Environmental Health Sciences**  
1430 Tulane Ave.  
New Orleans, LA 70112

Represented by:  
Sonny Angle  
Robin Angle  
John R. Barnes

Represented by:  
Mike Geoffroy, Technical Coordinator  
Gaston LeSante

Represented by:  
Hulan L. Hall, Jr.

Represented by:  
Michael B. Moon

Represented by:  
Mike Croston  
Mike Griffin, Wadasboro, N.C.  
J. T. McRae, Wadasboro, N.C.  
Sherry Taylor, Wadasboro, N.C.

Represented by:  
Rodger Wreath  
John Guthrie, President

Represented by:  
Bart Baker, Senior Vice President

Represented by:  
W. Lawson Cording, Vice President  
and Director of Marketing

Represented by:  
Martin (Marty) Smilo, President  
Juliette Smilo

Represented by:  
Lee Stearns  
Ben Williams

Represented by:  
James Crumpton  
David C. Long

Represented by:  
David E. Hartley, Public Health &  
Safety Council

Represented by:  
Carole Van Luven  
Lucille Proctor

Represented by:  
Fernando Gutierrez  
Jeanette Gutierrez

Represented by:  
Chuck Field

Represented by:  
Sophie Lanterier, Director, Industrial  
and Institutional Information

Represented by:  
David E. Calhoun  
Randy Harris

Represented by:  
Russell Borg  
Jerry McKinney

Represented by:  
Richard W. Spencer, Vice President

Represented by:  
A. J. Englande, Jr., Ph.D., Chairman  
Sharon  
Bock

## Book Exhibit Participants

**AAVIM**  
120 Driftmier Engineering Ctr.  
Athens, Ga. 30602

**American Chemical Society**  
1155 16th St. N.W.  
Washington, D.C. 2036

**American Institute of  
Chemical Engineers**  
345 E. 47th St.  
New York, N.Y. 10017

**American Society of  
Agricultural Engineers**  
2950 Niles Ave.  
St. Joseph, Mich. 49085

**Ann Arbor Science Publishers**  
P.O. Box 425  
Ann Arbor, Mi. 48106

**Aspen Systems Corporation**  
1600 Research Blvd.  
Rockville, Md. 20850

**Cold Spring Harbor Laboratory**  
P.O. Box 100  
Cold Spring Harbor, N.Y. 11724

**CRC Press, Inc.**  
2000 Corporate Blvd. N.W.  
Boca Raton, Fla. 33431

**The Food Processors Institute**  
1133 20th St. N.W.  
Washington, D.C. 20036

**The Johns Hopkins**  
University Press  
Baltimore, Md. 21218

**J.J. Keller & Assoc., Inc.**  
145 W. Wisconsin Ave.  
Neenah, Wis. 54956

**Lexington Books/  
D.C. Heath & Co.**  
125 Spring St.  
Lexington, Mass. 02173

**The C.V. Mosby Company**  
11830 Westline Industrial Dr.  
St. Louis, Mo. 63141

**Noyes Data Corporation**  
Mill Road at Grand Ave.  
Park Ridge, N.J. 07656

**Plenum Publishing Corp.**  
233 Spring St.  
New York, N.Y. 10013

**Charles C. Thomas, Publisher**  
2600 South First St.  
Springfield, Ill. 62717

**Thomson Publishers**  
Box 9335  
Fresno, Calif. 93791

**Urban & Schwarzenberg**  
 7 East Redwood St.  
 Baltimore, Md. 21202

**John Wiley and Sons, Inc.**  
 605 Third Ave.  
 New York, N.Y. 10158

**Yale University Press**  
 92A Yale Station  
 New Haven, Conn. 06520

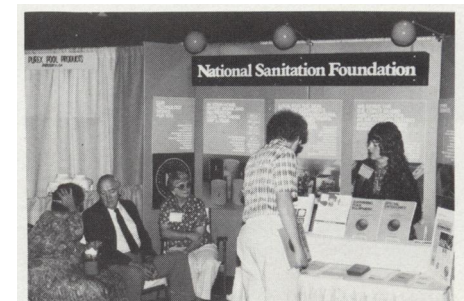
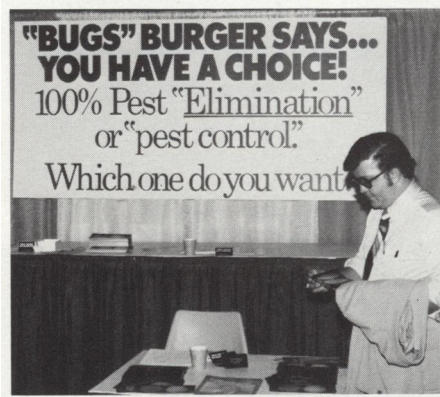
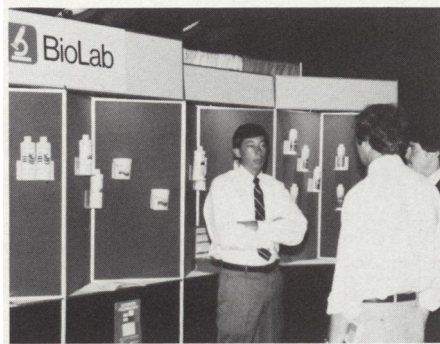
## Exhibits

The display of systems, products and information to help the field sanitarian/environmentalist, director, educator is always an important part of the educational experience at the annual conference. This year's exhibits made an even greater impact since NEHA staged the opening cocktail party in the exhibit hall, affording attendees an early idea of what was there and instilling the need to spend more time there. Breakfast was served in the hall for two days, drawing early risers to see what the exhibitors had to offer. Members and others who came for this great educational experience found much information in the exhibit area to take home with them to apply in attaining a more healthful environment.

## WIN Program Set for Norfolk

The NEHA Industry Advisory Committee will premier a What Is New (WIN) program at the 1983 annual meeting in Norfolk, Virginia. Committee Chairman, Denis Gearheart states that the purpose of this program is to enable business and industry to preview new products, concepts, or procedures for the professional sanitarian in a short time frame.

Presentations may be only five minutes and be strictly limited to **new** products or technology. Anyone having an interest in making a presentation or obtaining more information on the WIN Program, please contact Denis Gearheart, M. C. Nottingham Company, P.O. Box 2107, Irwindale, California 91706.



# NEHA Food Protection Section 1981-82 Annual Summary

Dora May Coleman

## Section Structure

The 1981-82 Food Protection Section was composed of three committees, Dairy, Food Processing and Distribution, and Food Service; the committees were chaired by Doug Belanger, Harriet Oyler and Charles McDuff respectively. I served as the section chair and C. Dee Clingman as the chair-elect.

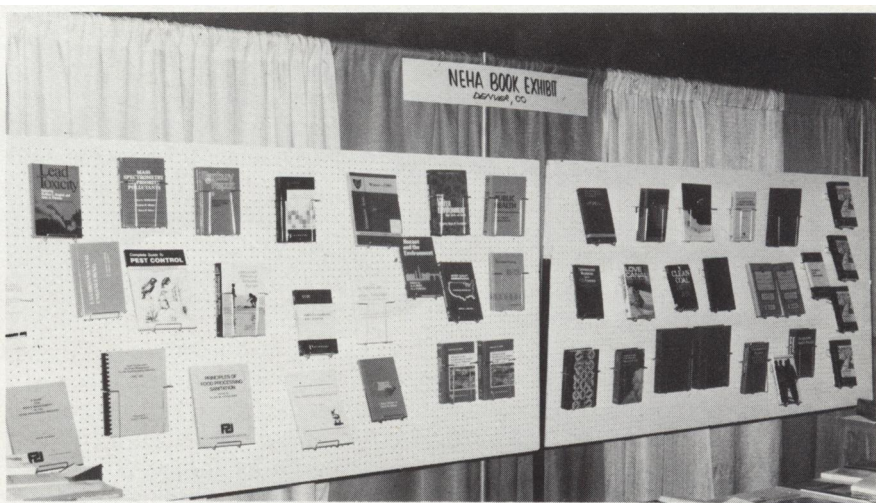
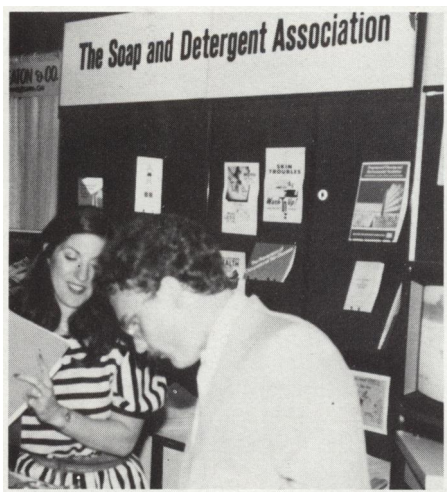
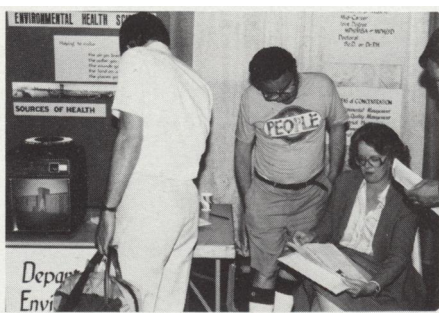
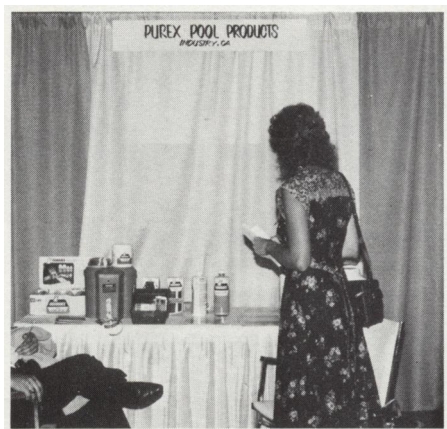
## Objectives

Our objectives were:

1. To compile a roster of the Section members, defining their disciplines and areas of expertise. The roster is to be used as an information source in responding to technical questions fielded by NEHA and be put on file at national headquarters for use by NEHA's other technical sections;
2. To develop technical programs for the 1982 AEC;
3. To work toward regional sectional organization to hold back expenses in travel and communications while increasing productivity.

## Accomplishments

1. Compiled a listing of sixty section members' areas of expertise. The data has been cross indexed and entered into an IBM SCRIPT program.
2. Developed two and a half days of technical programs for the 1982 AEC including a tour of a seafood canning plant.



3. Polled all NEHA members who had volunteered to be part of the section's committees for their ideas and activities; only 16/134 people responded.

4. Selected a recipient for the 1982 Industry Sanitarian of the year award.

5. Responded to varied technical problems addressed to NEHA.

6. Section leaders met in October, 1981 to review plans and programs for the season.

#### *Overall Comments*

The Food Protection Section had a very active year and, working as a group, succeeded in meeting our objectives. But in reviewing the year's activities, two things become obvious.

The first is that trying to incorporate the many members who volunteered for committee work was unwieldy, expensive and in these cases, unproductive. Committee structure should be reexamined.

The second is that nearly all our time and effort was spent planning programs for the AEC. If this is the main purpose of the section, then the 1981-82 season was successful.

If, however, the section is to function as a resource of technical knowledge for the association and be proactive in developing tangible programs on food related environmental issues, the following recommendations are offered:

1. Committee membership should be kept to a management level of known productive personnel;

2. Committee charges should be developed before the Annual Conference so that during that short time, projects can be outlined, assignments made and time schedules established for task review and completion.

### **Run for NEHA Office**

Nominations are in order for Regional Vice President in NEHA Regions 1, 4, 6 and 9. Persons who want to run for those offices need to get a nomination form from NEHA headquarters, fill in the needed information and have it signed and submitted by their affiliate. Nominees must be active or life members of NEHA. Nominations are to be submitted to Boyd Marsh, Nominations Chairman. Address Director of Environmental Health, Summit County General Health District, 1100 Graham

Circle, Cuyohoga Falls, OH 44224. Nominees will be placed on the 1983 mail ballot.

#### **Food Protection Section News**

The NEHA Food Protection Section is looking for members who would like to become involved in planning, developing, and implementing programs and activities to enhance food safety and sanitation practices. If anyone has an interest in becoming active in the foods area, please contact one of the committee chairpersons listed below:

##### *Chairman, Foodservice Committee*

Mr. Paul Martin  
Director of Instructional Planning  
National Institute for the Foodservice Industry

20 North Wacker Drive, Suite 2620  
Chicago, Illinois 60606

##### *Chairman, Food Processing and Distribution Committee*

Mr. Dennis Eastin  
Regional Milk and Food Specialist  
Food and Drug Administration  
Room 1545  
1200 Main Tower Building  
Dallas, Texas 75202

##### *Chairman, Food Industry Sanitation Award Committee*

Mr. Joel Simpson  
Director, Quality Assurance  
Dobbs Houses, Inc.  
5100 Poplar Avenue, Suite 716  
Memphis, Tennessee 38137

As a result of a last minute membership request at the New Orleans Meeting, the presentations at the Food Protection sessions were tape recorded. However, due to audio distortions or lack of amplification, the tapes were not suitable for reproduction. The Food Protection Section will work out the "bugs" and attempt to tape all food related sessions at the Norfolk meeting. Anyone having audio expertise, your help would be welcome, please contact Section Chairman: C. Dee Clingman, Vice President Quality Control, Red Lobster Inns of America, P.O. Box 13330, Orlando, Florida 32859.

The Section is compiling a directory of all members with expertise in food protection. This directory will provide resource people and will be cross referenced by subject (foodservice, markets, milk, vending, processing, distribution, etc.). If you would

like to be listed in this *NEHA Directory of Food Professionals*, please contact the Section Chairman listed above for an informational form.

The Food Protection Section welcomes any ideas or suggestions for the 1983 Annual Educational Conference, please contact one of the Committee chairpersons or Section Chairman.

### **Educational Tour Hansen's Disease Center**

One of the highlights for some attendees was the educational trip to the National Hansen's Disease Center at Carville, La. Director, Dr. John Trautman told the story of the disease, explained the extent and geographical distribution and the current treatment. Frank Kanatani, Chief, Health Services Research gave visitors a good explanation of the facilities, research and services provided to



The educational tour to the National Hansen's Disease Center was outstanding. The disease was explained by hospital staff; our gracious host was Frank Kanatani, Chief of Health Services Research.

patients. Frank is a long time member of NEHA, a native Oregonian, former Denver, Colo. Sanitarian, and since 1967 has been at the Hansen's Disease Center. He received a USPHS Commendation Medal for his work there. Observers noted that this USPHS Hospital is of service not only to victims in this country but the research, protection for patients and other work has far-reaching benefits for worldwide treatment and management of this centuries-old disease.



# Work Together To Protect Our Health and Our Environment

**Dr. John W. Hernandez, Jr.**

Deputy Administrator, U.S. Environmental Protection Agency

I am certainly pleased to be here with the members of the National Environmental Health Association and to have the opportunity to address those involved in the day-to-day decision-making in the environmental health field. We are all working to protect the health of our fellow citizens, and we at EPA recognize that there is a pool of competent, experienced technical staff working for state and local governments, coping with the application of many of the complex technical issues with which we are wrestling. I have some particular insight as I was formerly with the New Mexico Department of Public Health.

The theme of your conference is "Bridging the Gap Between the Federal, State and Local Governments and Industry." I shall discuss local-state-federal relationships and our mutual problems of assessing health risks. First, the important role that health risk assessment plays in several legislative mandates and health risk assessments as an integral part of most of EPA's actions in setting of standards and criteria, criteria which you must interpret and implement; Second, the complex issues surrounding risk assessment as an evolving scientific issue and its use by decision-makers; and Third, how we are improving the use of science at EPA.

Public health and environmental agencies have the common goal of achieving a better, healthier place for Americans to live at acceptable social, environmental and economic costs. Generally speaking, EPA has the responsibility to conduct environmental research, carry on monitoring activities, analyze the data, regulate waste discharges into all media, set



Hernandez

standards for drinking water, estimate criteria for air and surface water quality, review uses for new chemicals, and regulate pesticide use and set tolerances for pesticide residues. The implementation and enforcement of criteria, standards, and regulations is the responsibility of the state and local governments when they opt for primacy, otherwise this essential task remains the responsibility of EPA. We do have an oversight role in all state-delegated programs, including enforcement.

One of the toughest problems we all face is that of health risk assessment. When EPA was formed in the early 1970's, there were few rigorous procedures available to provide a consistent methodology that could be used to analyze and employ scientific data in establishing criteria and standards. It is my understanding that some of the cancer risk concepts initially used at EPA were primarily drafted by lawyers and then articulated in court decisions. Scientists did, in fact, assist in the development of the process. But there was a great deal of controversy over the Agency's initial approach—which might be expected since we are operating at the forefront of this complex area.

In 1976, the Agency adopted guidelines on the methods of cancer risk assessment. To the extent that it was permitted by the various pieces of enabling legislation under which the Agency acted, the use of the guidelines allowed EPA to evaluate risks to public health. These risks were then intended to be compared with social and economic concerns, in making regulatory decisions, a logical procedure used to evaluate the probabilities of specified adverse effects occurring, and the consequences of each such occurrence.

Most of our experience to date in using risk assessment in the regulatory process has been for potential carcinogens. Depending on the chemical being analyzed, the types of evidence of carcinogenicity might include human epidemiological studies, tests in laboratory animals, and short-term tests in bacteria or cell cultures which are thought to be suggestive of carcinogenicity. In rare cases there might be enough evidence of the mechanisms involved to reduce the plausibility of some alternative approaches for estimating risks, or that can suggest the degree of confidence with which the data can be extrapolated from animals to humans and from high to low doses.

Risk assessment, therefore, can be considered as a process to answer two questions:

- (1) How likely is the adverse effect to occur?
- (2) What is the magnitude of the public health impact at ambient exposure levels, if the event does occur?

Only rarely do we know for sure that an agent is indeed a human carcinogen. The first step in the process involves an evaluation of all the relevant data to determine the weight of evidence that an agent might be a carcinogen. The second step involves the quantification of the risk; that is, an

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Dr. John W. Hernandez, Jr., Speech before the National Environmental Health Association, New Orleans, La., June 20, 1982.

assessment of the public health impact based on best available estimates of anticipated exposure levels.

To answer the first question regarding likely carcinogenicity, the biomedical evidence is expressed as ranging from: 1) strong evidence based on human data that is supported by animal bioassay tests; 2) animal bioassay tests only; and 3) suggestive or supportive evidence provided by positive results from short-term tests, structure-activity relationships and the like. In most cases the toxicity data available on various chemicals have been generated from animal studies, often conducted at high doses.

The second step is that of presenting some quantitative estimates of increased cancer risks to individuals exposed to a chemical via various routes and levels, and the potential nationwide impact in terms of annual cancer cases attributable to exposure. The risk modeling used by the Agency is designed to lean toward over-estimates of the risk when confronted with uncertainty in the data; thereby, placing a premium on public health. Therefore, the resulting risk assessments are regarded as upper-limit estimates. For example, worst case exposure scenarios are used which frequently are based on a series of untested assumptions. Still, this procedure is necessary to generate these somewhat uncertain estimates made necessary by the absence of specific data. The potency of carcinogens can range several million fold, and it is important to take this into account in making public policy decisions even though scientific methods for precisely describing quantitative risks associated with environmental exposure are still being developed.

In discussing some of these problems, I will put them in the context of one of EPA's major laws, the National Safe Drinking Water Act. The tests of setting standards and the responsibility placed on the Administrator under this Act are not dissimilar from other environmental legislation. The following example of drinking water standards may illustrate the importance of using this approach in making public policy decisions.

The Safe Drinking Water Act requires that EPA identify levels of

contaminants that would result in "no known or anticipated adverse effects on the health of persons . . ." These levels are called "Recommended Maximum Contaminant Levels (RMCL's)." In the 1974 Safe Drinking Water Act, the Congress envisioned the National Academy of Sciences (NAS) establishing these RMCL's, but NAS concluded that from a scientific perspective the absolute guarantee of safety implied by that language could not be made. That statutory language is inappropriate to the needs of a real world where all is not known, but where decisions must be made to assure the protection of public health. Nonetheless, EPA must address the Act's requirements.

In setting an RMCL, the debate often centers around whether a contaminant poses a human cancer risk. As indicated previously, in most instances, it is necessary to infer human risks from animal tests run at much higher daily intake rates than those experienced in water supplies. As the drinking water standards are set to provide a measure of lifelong protection against the risk of adverse health effects, EPA has been forced to use animal studies conducted over the "test-species" lifetime as the principal data base from which to derive safe levels. Well-designed animal tests at high dosages, when properly evaluated and qualified, have been accepted by the scientific community as valid means of projecting potential human health risks.

Despite their acceptance, the complexities and uncertainties of these tests are important considerations for regulatory decision-makers. Problems of interpretation arise because the concentrations of chemicals of concern in the environment present cancer risks that are relatively small (less than one in 10,000) compared to the spontaneous rate of occurrence of tumors in experimental animals during positive feeding tests (on the order of several to tens of percent). To test animals at ambient environmental levels would require a very large sample size (on the order of millions of animals) in order to distinguish reliably between treated and control groups. Clearly, that type of experiment is not practical. Typically, a relatively small number of animals are fed a maximum tolerated dose, a second group at half this dose, and a

control group is given a zero dose, and the two groups followed for an 18- to 24-month period. All tumors are counted in bioassays, and a dose-response relationship is derived using various mathematical models—the most commonly used being a low-dose linear, no-threshold model. This estimate is not accurate, but provides only a rough indication of what may be the actual risk. Because of this and the public health consequences if the risk is understated, it has become common practice to make very cautious and prudent assumptions. Very cautious assumptions are first made in estimating the dose/response relationships and then in estimating exposures.

We are currently exploring a holistic approach that recognizes the multiplicity of exposure routes and the variety of health and environmental effects for chemicals of concern to EPA. The Office of Toxics Integration is currently developing a prototype for the future—an integrated Agency strategy for six halogenated solvents. The common names for these solvents are trichloroethylene, perchloroethylene, methylene chloride, methyl chloroform, carbon tetrachloride, and CFC-113.

The approach takes into account peer-reviewed data on health and environmental effects (regardless of exposure route), the release and fate of the chemicals throughout their life cycles, and examines major exposure routes. Such an approach will allow us to define risks of concern without any statutory bias as to the need (or lack thereof) for standards.

By "subtracting" the impact of already existing rules on these risks, remaining unregulated risks can be identified. At this point, all of the remaining risks, *and* their associated uncertainties, can be examined as a whole. Regulatory and non-regulatory control options can then be developed that examine the various EPA, federal, and non-federal options to deal with the remaining significant risks in a cost-effective manner.

In some cases, we may be dealing with risks unique to certain areas of the country. Thus, from a national regulatory development perspective, such strategies allow us to move beyond assessments of risk developed

from the perspective of a single exposure route (or a single EPA statute). As we develop this approach, decision-makers at the federal and state level will be able to focus risk-reduction resources on the routes of exposure and associated chemical releases of greatest public health concern, rather than on the ones that are simplest to control. By the same token, the regulated community will view our collective behavior to reduce risk as coherent and cost-effective, with the first dollar spent on risk reduction devoted to the larger payoff in terms of public health. Some laws, however, do not permit this type of prioritization.

Of course, because of their holistic nature, such strategies are complex, require time to produce, and often call for assumptions where data are absent. Meanwhile, federal and state decision-makers are called upon to assess risk and take immediate action in a non-regulatory context for public health protection.

Concerning drinking water, for example, over the past few years there has evolved a great need for advice and information on how to deal with drinking water contaminated by substances for which no drinking water regulation or MCL exists. It is obvious that it would be both impossible and undesirable to develop standards for each of the thousands of chemicals that can theoretically get into drinking water as a result of a contamination, a spill or an emergency situation. Therefore, in addition to EPA's formal standard setting responsibilities, the Office of Drinking Water has developed a Health Advisory process to help states and communities cope with unusual contamination incidents.

Health Advisories (formerly SNARLS) have been written for about 20 substances and informal toxicological advice is also available on other chemicals. Calculated "acceptable" levels in drinking water are related to the approximate length of exposure (1-day, 10-day, long-term exposure values are provided).

Many communities have used these advisories to help them decide what action they should take about an immediate contamination problem. They are not regulations, but they provide information so that local of-

ficials can make appropriate decisions based on the facts of a particular situation.

The bottom line is that your local health and environmental problems are our national problems. Our job should not complicate yours, but should help contribute to the solution. You must be able to rely on the work done at EPA to provide you with the needed information. One of our major goals for the Agency has been to improve the use of science in decision-making. By improving the quality of our data, and by maintaining a logical and strong scientific justification for what we do, you as fellow workers in the environmental field will be able to have more confidence in the information we provide.

Some positive changes that have been made that will improve our ability to provide scientific and technical guidance are:

1. We plan to obtain better and more useful monitoring data that will allow us to more readily identify problems, and to keep track of potential issues, as well as to provide a better scientific base for our actions.

2. Quality assurance has been implemented in planning data collection and analysis so that statements can be made as to the value and credibility of the data in our scientific documents.

3. Recently installed is a peer review process for EPA reports which will improve the quality of those documents published as EPA documents.

4. The Science Advisory Board, a board of nationally known and eminent scientists, reviews certain major regulations for their scientific adequacy.

5. The Agency is redesigning its research and development program to be more responsive to state and local needs and to begin to look at problems that will be affecting America in the future, so together we will be able to meet new health threats, and so we have a better sense of the effects of our environment on all of us.

I don't think that it would be possible for me to summarize our mission to protect the environment better than President Reagan did in a congratulatory message to your conference in 1981. He said:

"Today your Association and the American people face new environmental health challenges which we must meet with a combination of balance and common sense. These include the management and disposal of toxic and hazardous materials, conservation of water and environmental resources, reduction of air and water pollution, and a reduction of personal risk factors. We must dedicate our energies to these areas if we are to safeguard the health and safety of Americans and preserve the beauty and splendor of our nation for future generations. You have my best wishes for a productive conference and every success in the years ahead."

Sincerely, Ronald Reagan."

That's our mission—our goal. Collectively we all need to work together to protect our health and environment.



Next stop on the NEHA/AEC tour is Norfolk, Va., where planning for the July 9-14 event is well underway. Host members are Barry Hartfield; Garland Gobble; James Bowman; Horace Jones; and Dennis Hill.