



The ADVISOR

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH 5600 Fishers Lane,
Rockville, Md. 20852

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“He was a bold man that first eat an oyster.”

—Jonathan Swift (1667-1745)

AUGUST GREETINGS

Your response to the first trial issue of *The ADVISOR* (July) was very positive — and we're very grateful! So, we're trying another issue — this one includes some examples of our epidemiological research activities in the field, the latest on NIOSH progress in producing criteria for new standards, a few new personnel additions, the Testing and Certification Laboratory in Morgantown, West Virginia, and other items which we hope you find of interest.

A great many of you have written to the NIOSH Office of Public Information asking that we include other names on our distribution list. While we have not had the manpower or the time to acknowledge receipt of such requests by return mail, please be assured that we are complying and our mailing list is growing accordingly.

And while we're on that subject, we should also mention this about your requests for the latest criteria documents: the noise and carbon monoxide documents were not put into final (i.e., official) form until about August 10. The beryllium and hot environment documents were, however, available upon request in early July. Consequently, if you sent us a request for the noise and carbon monoxide criteria documents you should have just received them. Logistically, we are hard pressed to respond to requests on a piecemeal basis. We are also presently unable to maintain effectively an exclusive mailing list of individuals wanting criteria documents. Therefore, in the future, you will receive a notification via our regular mailing list indicating when and where copies of criteria documents can be obtained.

A similar phenomenon exists with respect to the 1972 List of Toxic Substances — this rather sizable document is being printed by the Government Printing Office and is not yet available to requesters. Availability will be announced to all of you as soon as we receive our supply, which will probably be late September. Requests already received for the 1972 List will be held until copies are available. Thank you for your patience — please don't stop writing to us!

Staff, Office of Public Information

FIELD STUDIES AND CLINICAL INVESTIGATIONS

Those familiar with the specific research requirements of the Occupational Safety and Health Act are probably aware that HEW (NIOSH) is required by Section 20(a)(77) to conduct and publish industrywide studies of the effect of chronic or low-level exposure to industrial materials, processes, and stresses on the potential for illness, disease, or loss of functional capacity in aging adults.

This requirement has necessitated the initiation of considerable epidemiological research, aimed at defining the relationship of disease incidence to possible causative factors in a variety of occupational environments. While epidemiological-related research activity is common to a number of NIOSH components, it is most intense in two groups: the Division of Field Studies and Clinical Investigations (DFSCI), directed by Dr. Joseph K. Wagoner, and the Illness and Injury Surveillance Branch of the Office of Health Surveillance and Biometrics.

The latter Branch's research is directed toward the early identification of unusual disease and injury patterns among industrial groups by way of systematic studies of the literature, vital statistical data, Social Security Administration disability information, worker population figures, and related material, in order to uncover unusual patterns of death or injury among occupational groups (See July *ADVISOR*). Such warnings of previously unknown or undocumented occupational dangers may then be confirmed or disproven by epidemiological research in the field, i.e., by the Division of Field Studies and Clinical Investigations.

Through its studies, this Division seeks to (1) determine the health status of specific working populations; (2) relate the prevalence of abnormal findings to cumulative exposure to hazardous substances; and (3) relate the incidence of abnormal findings to current levels of hazardous exposures.

One such study presently focuses upon cosmetologists and the risks associated with the use of hair sprays, hair dyes, and various aerosol gases. According to Dr. Wagoner, there have been indications of an excess of malignancies of the

lymphatic system and the bladder, as well as cardiac and non-malignant respiratory diseases among members of this profession.

This project entails a retrospective study of 10,000 cosmetologists and utilizes the records of the Connecticut State Department of Health Registry and Licensure Division, and Tumour Registry. Medical examinations of 800 currently employed cosmetologists will be conducted to determine possible pulmonary and cardiac abnormalities.

Ongoing epidemiological research into the hazards of working with asbestos and asbestos products served as primary input for the NIOSH criteria for a recommended standard governing asbestos exposure. Like the preceding example, the asbestos project has involved a retrospective study of 20,000 asbestos workers, medical examinations for 2,700 currently employed workers, and extensive engineering evaluations of in-plant conditions. The association between asbestos exposure and lung cancer, pleural mesothelioma, and asbestosis has been widely recognized.

A highly important area of NIOSH's epidemiological research has been the investigation of uranium miners and their exposure to radioactive decay products (radon daughters) from uranium ore. This investigation, carried out primarily by NIOSH's Western Area Occupational Health Laboratory in Salt Lake City, Utah, has resulted in the publication of a monograph entitled "Radon Daughter Exposure and Respiratory Cancer — Quantitative and Temporal Aspects." It was authored jointly by NIOSH's Dr. Joseph K. Wagoner and Dr. Victor E. Archer, and by Dr. Frank E. Lundin, Jr., of the National Institute of Child Health and Human Development.

Another field project seeks to determine whether workers in fibrous glass manufacturing plants experience adverse health effects as a result of exposure to airborne concentrations of fibrous glass. Studies conducted to date have not documented such adverse effects. However, in-depth epidemiological investigations are required to evaluate whether or not chronic effects occur subsequent to occupational exposures in the manufacturing of fibrous glass products. While this project will concentrate on exposure to glass fibers, it will also take into account other exposures which are inherent to the manufacturing of fibrous glass products, but which are not unique to this industry alone.

The fibrous glass project includes a retrospective cohort study of mortality patterns among several thousand former workers and utilizes the employee medical files of a number of fibrous glass plants in the United States. Currently employed fibrous glass workers will be examined, using X-ray, pulmonary function tests, and questionnaires. Comprehensive industrial hygiene surveys are also being conducted in order to characterize the plant environment, to assess the status of present engineering controls, and to establish appropriate sampling methods and techniques.

Soon to be completed is a DFSCI epidemiological investigation of ion exchange resin plants using bis(chloromethyl)ether. This investigation encompasses a cohort mortality study, a sputum cytology survey, and review of malignancies for histopathological and anatomic site distribution.

Data from these studies and other studies undertaken by DFSCI will be reported in future issues of *The ADVISOR*.

NIOSH SOON TO ISSUE REGULATIONS ON HAZARD EVALUATIONS

NIOSH will soon issue final regulations concerning procedures for conducting job health hazard evaluations in the workplace. As most of you know, NIOSH carries out evaluations of potentially toxic substances in the workplace at the request of employers and employee representatives under a major requirement of the Occupational Safety and Health Act of 1970.

The final regulations will be formally published in the Federal Register, and will reflect changes made in proposals previously published in the Federal Register on March 17, 1972.

The regulations will be applicable to requests received from any employer or authorized representative of employees in establishments covered by the Occupational Safety and Health Act. An authorized representative of employees, as defined by the regulations, now in final draft form, may be either a representative for purposes of collective bargaining, or an employee who has written authorization from two or more employees who are employed in the work area where the potentially toxic substance is normally found. Where there are three or less employees in the workplace where the substance is normally found, any one of the employees may be considered an authorized representative.

Under consideration are provisions for giving advanced notice to employers, and authorized representatives of employees who request health hazard evaluations, except in cases where, in the judgment of the NIOSH official, giving such notice would adversely affect the validity and effectiveness of the investigation. In the case of employee requests, the employer would be given advance notice along with the employee representative. According to NIOSH Director, Dr. Marcus M. Key, "Failure to give advance notice in the past has impeded our hazard evaluation program due to the fact that the processes in question have sometimes not been in operation on the day of our visit, or employers and employee representatives and other key personnel have not been available." Dr. Key also pointed out that possible misrepresentation of actual plant conditions could be avoided by exercising NIOSH's right to conduct private interviews with appropriate employees.

Copies of all final reports of health hazard determinations will be forwarded to the Department of Labor and the appropriate State agency, as well as to the requesting party. Each determination will, as a minimum, state the levels of concentration of the substances as they are found to exist, state whether or not there are potentially toxic effects from such concentrations, and provide the basis for those judgments.

The regulations will also address themselves to dealing with trade secrets and classified information, the taking of photographs and environmental samples, as well as other procedures related to the conduct of health hazard evaluations.

Copies of the regulations and a one-page instructional form to assist requesters in initiating health hazard evaluations will be available from NIOSH's Division of Technical Services, Hazard Evaluation Services Branch, Post Office Bldg., Room 508, Cincinnati, Ohio 45202 and from each of the 10 NIOSH Regional Offices. The NIOSH readership will receive a copy of the final regulations upon their issuance. The Division of Technical Services, directed by Dr. Bobby Craft, administers the hazard evaluations program.

A TCL GROWS IN MORGANTOWN

A Testing and Certification Laboratory (TCL) has been established at NIOSH's Morgantown, West Virginia Appalachian Center for Occupational Safety and Health (or ACOSH for those of you who never tire of acronyms). The TCL will test and certify personal protective equipment and devices required by standards promulgated by the Department of Labor under the Occupational Safety and Health Act, and, to a limited extent, by the Department of the Interior under the Federal Coal Mine Health and Safety Act.

The TCL is under the immediate direction of Mr. Robert H. Schutz (see brief biographical sketch below), and is a component of the Division of Laboratories and Criteria Development, which is headquartered in Cincinnati, Ohio. The testing of respirators is already being performed by the TCL under terms of a recently negotiated interagency agreement with the Department of the Interior's Bureau of Mines. The latter agreement transferred the responsibility for respiratory testing from the Bureau of Mines' Pittsburgh facility to NIOSH's West Virginia laboratories.

The testing of gas detector tubes for use by NIOSH and OSHA field personnel is slated to begin shortly, as is preliminary testing of safety hats and glasses. Although appropriate regulations have to be written and published before the TCL can begin giving official NIOSH approval to occupational safety and health protective equipment required by the Occupational Safety and Health Act, Mr. Schutz indicated that the TCL should "... be actively testing in every area of its responsibility by July 1, 1973."

Respirator certification remains the highest priority at present, and the first supplied-air respirator testing and approval will begin by September 5 under the agreement with the Bureau of Mines. Testing and certification will eventually be applied to the following items: hats, glasses, shoes, belts and harnesses, and earplugs. Other items such as protective clothing, and industrial hygiene equipment such as noise meters and dust samplers will be gradually added to the list.

According to Mr. Jeremiah R. Lynch, Deputy Director of the Division of Laboratories and Criteria Development, in a recent paper published* by the Human Factors Society, "The function of the TCL will go beyond testing and certification, however; it will continue to evaluate manufacturers' quality control programs and also continue to monitor the quality and performance of the devices that receive certification."

Mr. Robert H. Schutz, Director of the TCL, came to NIOSH from the Bureau of Mines' Pittsburgh, Pennsylvania Health and Safety Technical Support Center, where he supervised the Coal Mine Respirator Certification Program. Mr. Schutz is a native of Pennsylvania and is 46 years of age. He is a chemist by training, receiving his BS in chemistry from Allegheny College in 1949. He was employed by the Bureau of Mines until his recent transfer to the NIOSH Morgantown facility. At that time, he was serving the Bureau as Supervisory Research Chemist for the Respirator Section, Health and Safety Technical Support Center. Mr. Schutz is an active member of the American Society of Safety Engineers,

the American Industrial Hygiene Association, American Conference of Governmental Industrial Hygienists, the Federal Safety Council, and other professional groups. He is married and has two children.

CRITERIA DOCUMENTS — FOUR MORE COMPLETED

NIOSH's Office of Research and Standards Development, under Dr. Charles Powell, has completed and transmitted four more criteria documents via HEW to the Department of Labor. These latest documents contain criteria for recommended standards governing occupational exposures to four potential hazards: beryllium, heat, carbon monoxide, and noise.

The beryllium document recommends that exposure limits now being enforced by the Department of Labor's Occupational Safety and Health Administration — 2 micrograms of airborne beryllium per cubic meter of air — be retained. This value is computed by a time-weighted average method over an 8-hour workday. Short-term ceiling exposures are allowed only to 25 micrograms per cubic meter of air.

In its recommendations concerning occupational heat stress, NIOSH has set forth prescribed work practices intended to ensure that employee body temperatures not exceed 100.4 degrees Fahrenheit. The environmental heat values are computed by the wet-bulb globe temperature method which takes into consideration air temperature, humidity, wind speed, and longwave radiation. This criteria document also contains a recommended regimen for acclimatizing new employees to hot working environment, work-rest cycles, accessibility of water and salt tablets, and other considerations.

The noise document recommends that the present limit of 90 decibels (dBA) for an 8-hour day being enforced by the Department of Labor be retained. NIOSH has recommended, however, that the level be reduced to 85 dBA following the completion of engineering feasibility studies to be conducted by the Department of Labor in consultation with HEW. The 85 dBA would have immediate application for new installations.

The carbon monoxide recommendations would reduce the present Department of Labor standard of 50 ppm (parts per million of air) to 35 ppm as determined by a time-weighted average for an 8-hour workday. Short-term exposures would be limited to a ceiling concentration of 200 ppm.

All four of the criteria documents contain guidelines for personal protective equipment, work practices, warning and labeling requirements, engineering controls, and medical examinations, in addition to research documentation.

Copies of the documents are available from the Office of Public Information at both the Cincinnati and Rockville locations. (See addresses on back side of *The ADVISOR*.)

Work is continuing on criteria documents containing recommendations for many other occupational exposures. Recommendations for lead (inorganic) exposure are slated to be the next in order of completion and transmittal to the Department of Labor, i.e., by early fall. Criteria for controlling ultraviolet radiation may also be completed and transmitted this fall, followed by documents for mercury and silica exposure

*Human Factors Society Bulletin, Vol. XV, No. 8, August 1972.

in early winter. Criteria governing exposure to coal tar pitch volatiles may also be transmitted by the end of the calendar year.

Criteria documents scheduled for completion and transmittal during the remainder of Fiscal Year 73, i.e., by next June 30, include fibrous glass, benzene, cadmium, chromic acid, toluene, toluene di-isocyanate, trichloroethylene, and others.

Studies and evaluations are being made on special recommendations for standards governing industrial production of three carcinogens: bis(chloromethyl)ether (BCME), beta-naphthylamine, and dichlorobenzidine. Information concerning these materials is now being received and compiled as a result of a request published in the Federal Register, and as a result of NIOSH literature searches. Present plans call for the completion and transmittal by this fall of the recommendations concerning at least one of these carcinogens. These recommendations will address themselves to the need for inspection and certification of individual production facilities, as well as to other considerations.

It should be noted that announced completion dates or schedules for developing and transmitting criteria documents are subject to change. Timing depends a great deal on the length of time required for review procedures and approvals, the need for rewrites, etc. So . . . the above timetable is fairly flexible! We'll keep you posted.

SOME STAFF ADDITIONS . . .

Here are some staff additions recently made to the NIOSH ranks: *Mr. Robert L. Peterson* has been named as Chief of NIOSH's Western Area Occupational Health Laboratory, located at Salt Lake City, Utah. His appointment was effective August 7.

Mr. Peterson comes to NIOSH with extensive experience in the field of industrial hygiene, most recently as industrial hygienist for the Atomic Energy Commission's San Francisco Operations Office, and prior to that, with the Aerojet-General Corporation. He served the Air Force for many years in the field of bio-environmental engineering, both as an officer and as a civilian employee.

Peterson obtained his BA in biological sciences from the University of Utah in 1939, and was then employed by the Utah State Health Department's Division of Industrial Hygiene. He continued his education at the University of Dayton and has completed many specialized training programs since then. Mr. Peterson has supervisory responsibility for the entire staff of the Salt Lake City facility, which currently numbers 40 persons. (More on the Salt Lake City lab in the next issue of *The ADVISOR*.)

Dr. Keith Jacobson has been added to the staff of the Office of Research and Standards Development, directed by Dr. Charles H. Powell. Dr. Jacobson is Chief of the Criteria Development Branch, having reported for duty in mid-June. Dr. Jacobson obtained his BA degree from the University of South Dakota, a BS in meteorological engineering from New York University, and a Ph.D. from the University of Cincinnati. He performed toxicological research in occupational health at the Army Chemical Center and has served as Chief of the Toxicological Research Branch of the Food and Drug Administration. He came to NIOSH directly from the faculty

of Tulane University's Department of Medicine, New Orleans, where he performed research in environmental medicine. As Chief of the Criteria Development Branch, Dr. Jacobson plays a key role in supervising and coordinating the production of NIOSH criteria for recommended standards. He reports directly to Dr. Charles H. Powell, Director of the Office of Research and Standards Development.

Dr. Jack Butler has joined the Rockville staff to serve as Special Assistant to NIOSH Director, Dr. Marcus M. Key. Dr. Butler is a public health veteran in the areas of preventive medicine and medical care administration. He obtained his M.D. from the University of Texas in 1955, working several years in the Public Health Service and then in general practice, earning his Masters of Public Health from the University of Pittsburgh in 1965. Dr. Butler has served in the Public Health Service tuberculosis program, worked as a medical officer with the Coast Guard, and as a resident in preventive medicine at the University of Pittsburgh. More recently, he was associated with the Federal Health Program Service (formerly the Division of Hospitals), ultimately assuming the Directorship. He joined NIOSH officially in early July.

Dr. Dennis J. McGrath has joined NIOSH's Office of Research and Standards Development as Special Assistant to its Director for Medical Criteria. Born in Boston, Dr. McGrath was brought up in Ireland and graduated with his M.D. from the Medical School of the National University of Ireland. He was in hospital practice in England and later returned to the United States and general practice in Towson, Maryland. Dr. McGrath joined the staff of the Food and Drug Administration's Bureau of Medicine in 1959 and later its Bureau of Product Safety, where he worked prior to joining the NIOSH ranks.

. . . AND LOSSES BY RETIREMENT

Three outstanding veteran scientists — Mr. Howard Ayer, Dr. Lewis Cralley, and Dr. Austin Henschel — have retired from NIOSH and the Federal Government. Fortunately, however, their service and association has not been entirely lost to the Institute.

Howard Ayer remains in Cincinnati as a Professor of Environmental Health at the University of Cincinnati. Dr. Cralley continues his association with NIOSH as a special consultant in epidemiology and occupational health research.

Dr. Austin Henschel is also remaining in touch with NIOSH as a science advisor to the Associate Director for Cincinnati Operations, Dr. Edward J. Fairchild. Dr. Henschel will be responsible on a part-time basis for the coordination of the NIOSH program involving foreign currency agreements.

All three retirees and their families were honored at a luncheon in late June by the staff of the NIOSH Cincinnati laboratories.

NIOSH ASSIGNS NURSE TO PHILADELPHIA REGION

In what represents a first for NIOSH, an occupational health nurse has been assigned to one of the regional offices — Region III in Philadelphia. Mrs. Caroline Hager, a 1969 *cum laude* graduate of the Boston School of Nursing, was recently assigned to the Region III office, where she will per-

form occupational health nursing consultative duties and assist NIOSH Regional Program Director, William Shoemaker, in carrying out requests for hazard evaluations in the workplace. Mrs. Hager is a Senior Assistant Nurse in the Public Health Service Commissioned Officers Corps.

A native of Worcester, Massachusetts, Mrs. Hager comes to NIOSH from a position in employee health with the Department of Defense. She is a member of the Sigma Theta Tau honorary nursing society and a most welcome addition to the NIOSH staff.

NIOSH TRAINS ITS OWN

Mr. Edgar F. Seagle, Special Assistant for Intergovernmental Affairs to the NIOSH Director, has been designated to undergo a 12-month period of academic training which will lead to a Doctorate in Occupational Safety and Health. He left his post in Rockville, Maryland on August 1 to go to the University of Texas School of Public Health at Houston, Texas. He will return to NIOSH on completion of his studies.

Mr. Seagle is but one appointee under the NIOSH long-term training program, which has as its purpose to upgrade professional staff members. The training program is administered by the NIOSH Office of Manpower Development and the tuition paid by the Public Health Service. Employee-trainees continue to receive salary during the training and return to NIOSH at the end of their grant awards.

NIOSH personnel now receiving training under this program, in addition to Mr. Seagle are: John L. Hankison and Richard J. O'Brien (Morgantown); Allan Heins, Jeffrey Lee, B. Thomas Scheib, and Robert Vandervort (Cincinnati); and Howard Ludwig, Alan Palmer, and William T. Stringer, III (Salt Lake City). Messrs. Hankison, Heins, Lee, Palmer, Scheib, and Seagle are working toward their doctorates. The curricula includes, in addition to industrial hygiene and occupational health, bio-engineering, medicine, and audiology.

THE NIOSH GRANTS STUDY SECTION — SOME CHANGES

A special NIOSH study section reviews research and demonstration grant applications for scientific and technical merit, and training and fellowship applications for technical and educational merit. Additionally, the study section advises the Institute on areas of needed research and training emphasis. The non-Federal members are traditionally appointed from public and private non-profit organizations and agencies by the HSMHA Administrator. Appointments are for four-year overlapping terms.

There have recently been four replacements for retiring members and four additional members appointed to this group as described below:

Replacement members, appointed for four-year terms, are Dr. Don B. Chaffin, Associate Professor of Industrial Engineering, University of Michigan; Dr. Eula Bingham Mattheis, Associate Professor of Environmental Health, University of Cincinnati; and Dr. Warren H. Teichner, Professor of Psychology, New Mexico State University. Appointed for a two-year term is Dr. Anna M. Baetjer, Professor Emeritus of Environmental Medicine, John Hopkins University. These four replace retiring members Dr. George E. Briggs, Professor

of Psychology, Ohio State University; Dr. Y. King Liu, Associate Professor of Biomechanics, Tulane University; Dr. Lloyd B. Tepper, Associate Director of Kettering Laboratory, University of Cincinnati; and Dr. Stanley N. Wampler, Director of Federated Medical Resources, Philadelphia.

Members added to the study section for four-year terms are: Dr. B. Seight Culver, Director of Occupational Medicine Section, University of California at Irvine; and Mrs. Iva E. Pleasants, Occupational Health Nurse of Virginia State Health Department; and, for two-year terms, Mr. William M. Anderson, Jr., Technical Education Consultant, California Community Colleges; and Mr. Marvin D. Mills, Associate Professor of Safety Education, Marshall University.

ALVARADO HEADS REGION I OFFICE

Mr. Paul F. Alvarado was assigned on July 24 as Regional Program Director for NIOSH's Region I Office in Boston, Massachusetts. He is the former Chief of NIOSH's Environmental Management Branch, Division of Training, in Cincinnati, Ohio.

In his new position, Alvarado represents NIOSH in the States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. His staff consists of a secretary and an industrial hygienist; two occupational safety and health surveyors from the NIOSH Office of Health Surveillance and Biometrics also work out of his office. His telephone number in Boston is 617/223-6668 and his office is located in the John F. Kennedy Federal Building.

INTER-NOISE 72

NIOSH is cooperating in the presentation of *INTER-NOISE 72*, the first International Noise Control Engineering Conference and Equipment Exposition. The Conference and exhibition, which are sponsored by the Institute of Noise Control Engineering, will be held at the Shoreham Hotel in Washington, D.C., on October 4-6, 1972, and are expected to attract registrants from more than ten countries. This will be the most comprehensive technical program and product display ever presented in the fields of noise, vibration, and shock control and of hearing conservation. NIOSH is a major component of HEW's Health Services and Mental Health Administration and carries out extensive research responsibilities under the Occupational Safety and Health Act of 1970.

The leading manufacturers of equipment for noise, vibration, and shock control and for hearing conservation are expected to display their latest products, services, and technical capabilities. The exhibition will include noise control systems and materials, vibration and shock control systems and materials, acoustically rated architectural products, instrumentation for dynamic measurements, hearing protection devices, audiometric testing equipment, dynamic environmental testing systems, and acoustical testing services.

Presented by leading engineers and legislative representatives concerned with environmental noise, the Conference will expose attendees to in-depth tutorial seminars, state-of-the-art technical sessions, and problem-solving workshops. Topics to be covered include: machinery for noise, vibration, and shock

control; noise legislation and ordinances; hearing conservation; noise and vibration control in buildings; instrumentation and measurements; aircraft noise and airport noise control; surface transportation noise control; industrial noise control; criteria and standards; and economics of noise, vibration, and shock control.

The Conference will appeal to both the individuals who have just been given responsibility for noise and vibration control and the experienced specialists who need the latest information in their field.

The first day of the Conference will be directed to noise legislation and the problems of enforcing national, regional, and local codes, rules, and regulations. Two panels will address the question, "What Constitutes a Practical National Program for the Control of Environmental Noise?". William M. Magruder, Special Consultant to President Nixon, will address the registrants on the economic aspects of a national noise control program with particular emphasis on the role of quieted American products in world trade.

Other agencies and groups cooperating in the presentation of *INTER-NOISE 72* are the Acoustical Society of America, the International Commission on Acoustics, the Environmental Protection Agency, the Department of Labor, the Department of Transportation, the Department of Housing and Urban Development, and the National Bureau of Standards.

Additional information on *INTER-NOISE 72* and advance registration cards for speedy admission to the Conference and exhibition can be obtained from: *INTER-NOISE 72*, c/o Applied Acoustics Section, Mechanics Division, National Bureau of Standards, Washington, D.C. 20234.

PUBLICATIONS: Copies of the following NIOSH publications are available from the Office of Public Information, 1014 Broadway, Cincinnati, Ohio 45202.

Directory of Governmental Occupational Safety and Health Personnel

Sources of Information on Occupational Cancer in the United States

Occupational Safety and Health Training Grants (describes the programs supported by training grant funds)

Announcement of Courses, Division of Training

List of NIOSH Publications

We also have a limited supply of "The Presidents Report on Occupational Safety and Health."

HEADQUARTERS

National Institute for Occupational Safety & Health
Health Services and Mental Health Administration
5600 Fishers Lane
Rockville, Maryland 20852

APPALACHIAN LABORATORY

Appalachian Center for Occupational Safety & Health
National Institute for Occupational Safety & Health
P.O. Box 4292
Morgantown, West Virginia 26505

CINCINNATI LABORATORY

National Institute for Occupational Safety & Health
Health Services and Mental Health Administration
1014 Broadway
Cincinnati, Ohio 45202

WESTERN AREA LABORATORY

Western Area Occupational Health Laboratory
National Institute for Occupational Safety & Health
2738 South 20th East
Salt Lake City, Utah 84106
Mailing Address:
P.O. Box 8137
Salt Lake City, Utah 84108

REGION I—Boston

(Conn., Maine, Mass., N.H., R.I. and Vermont)
Regional Program Director, NIOSH
DHEW Region I
Government Center (JFK Fed. Bldg.)
Boston, Massachusetts 02203

REGION II—New York City

(N.J., N.Y., Puerto Rico and Virgin Islands)
Regional Program Director, NIOSH
DHEW Region II—Federal Bldg.
26 Federal Plaza
New York, N.Y. 10007

REGION III—Philadelphia

(Del., D.C., Md., Va., W.Va. and Pa.)
Regional Program Director, NIOSH
DHEW Region III
401 North Broad Street
Philadelphia, Pa. 19108

REGION IV—Atlanta

(Ala., Fla., Ga., Ky., Miss., N.C., S.C., Tenn.)
Regional Program Director, NIOSH
DHEW Region IV
50 Seventh Street, N.E.
Atlanta, Georgia 30323

REGION V—Chicago

(Ill., Ind., Mich., Minn., Ohio and Wisc.)
Regional Program Director, NIOSH
DHEW Region V
300 South Wacker Drive
Chicago, Illinois 60607

REGION VI—Dallas

(Ark., La., N.M., Okla. and Texas)
Regional Program Director, NIOSH
DHEW Region VI
1100 Commerce Street (Rm. 8-C-53)
Dallas, Texas 75202

REGION VII—Kansas City

(Iowa, Kans., Mo. and Neb.)
Regional Program Director, NIOSH
DHEW Region VII
601 East 12th Street
Kansas City, Missouri 64106

REGION VIII—Denver

(Colo., Mont., N.D., S.D., Utah and Wyo.)
Regional Program Director, NIOSH
DHEW Region VIII
19th and Stout Sts. (9017 Fed. Bldg.)
Denver, Colorado 80202

REGION IX—San Francisco

(Arizona, Calif., Hawaii and Nevada)
Regional Program Director, NIOSH
DHEW Region IX
50 Fulton Street (254 FOB)
San Francisco, California 94102

REGION X—Seattle

(Alaska, Idaho, Oregon and Washington)
Regional Program Director, NIOSH
DHEW Region X
1321 Second Avenue (Arcade Bldg.)
Seattle, Washington 98101