



## OCCUPATIONAL SAFETY & HEALTH REPORT

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PLAINTIFF'S EXHIBIT

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### NIOSH - OSHA'S GIANT PARTNER

Importance of the Occupational Safety and Health Act of 1970 (Williams-Steiger Act) to industry has been well publicized. The role of OSHA under DOL in setting safety and health standards, the inspection provisions, citations and fines are well known. Not quite so evident has been the job of OSHA's powerful partner, NIOSH, in support of the Act. NIOSH (National Institute of Safety and Health), is specifically set up under the Williams Steiger Act, and is created under the jurisdiction of HEW.

NIOSH is consultant in:

1. Determining health priorities.
2. Setting health and safety standards.
3. Hazard evaluations of toxicity determinations.
4. Development of manpower to implement the Act.
5. Operating a national occupational and illness recording and reporting system.
6. Providing employer/employee education.
7. Approving state plans.
8. Awarding grants to states.

In addition to such support activities, the agency has important responsibilities of its own under the Act:

1. Health and Safety Research.
2. Industry wide studies.
3. Hazard evaluations of toxicity determinations.
4. Annual compilation of a list of toxic substances.
5. Development of manpower for implementing the Act.

NIOSH is one of the 17 programs in the Health Services and Mental Health Administration (HSEMA) (See Fig. 1). HSEMA, in turn, is one of 6 operating agencies of HEW. NIOSH, under Marcus M. Key, M.D. as director, is organized as shown in Fig. 2.

Organization is functional; an operating division is identified for each major activity, eg:

Health and Safety Research -  
Division of Laboratories and Criteria Development

Industry-wide studies -  
Division of Field Studies and Chemical Investigations

Technical and Clinical Services including back-up resources for hazard evaluation -  
Division of Technical Services

Short Term Training -  
Division of Training

Promotion of New Occupational Health Programs-at state and local levels and in industry and Agriculture -  
Division of Occupational Health Programs

Implementation of HEW's Responsibilities -  
Appalachian Laboratory for Occupational and Respiratory Diseases

NIOSH's Regional Program Directors make initial response to requests for hazard evaluations and work closely with OSHA Regional Administrators and the State. NIOSH will soon have an Assistant Director for Safety, with staff responsibilities for coordination of safety research and training and with line responsibilities for operating the Institute's own health and safety program, which will put into practice some of the things to be learned from research activities. In the Division of Laboratories and Criteria Development, a new branch has been created--the Behavioral and Motivational Factors Branch, which will plan and conduct laboratory and worksite research on the psychological, behavioral, and motivational factors which reflect and which are influenced by stress situations posed by job demands and by exposures to chemical and physical agents. Other aspects of safety research will be carried out by Physiology and Ergonomics Branch and the Engineering Branch. Reliance will also be made on the contract and research grant mechanisms in conducting our safety research.

Another new activity of NIOSH in the safety field is the testing and certification of respirators, detector tubes, and industrial hygiene instruments, and eventually testing and certification may be extended to personal protective equipment when these are specified in standards. Present respirator testing programs conducted by the Bureau of Mines in Pittsburgh will be transferred to NIOSH's new Appalachian Center for Occupational Safety and Health in Morgantown, West Virginia, where it will be expanded.

Performance specifications for respirators have already been jointly developed by the Bureau of Mines and NIOSH under the Coal Act and will be extended to respirators used under the Occupational Safety and Health Act. New performance specifications will have to be developed for industrial

hygiene detector tubes and instruments, but many items of personal protective equipment already have applicable national consensus standards. The present modus operandi of the joint BOM-NIOSH respirator testing and certification program--performance testing and vendor survey for quality control--will be used wherever applicable.

In standards setting research NIOSH will complete work this fiscal year on criteria for certain priority standards. These will be recommendations for complete standards, in that sampling methods and analytic procedures, monitoring locations and intervals, protective equipment and control procedures, labelling precautions, and first aid instructions will also be specified where applicable.

NIOSH has a long way to go in developing criteria for standards. There are about 10,000 chemical substances in common or widespread industrial use; there are standards for only 400-500. New chemicals are being developed at the rate of several thousand each year, but only a dozen or two criteria packages are being turned out a year. In addition, the national consensus-standards setting organizations will make contributions, and additional standards will result from NIOSH's hazard evaluations and toxicity determinations. NIOSH's first list of toxic substances was published at the end of June and contained over 8,000 substances. The list gives the concentration at which each substance is known to be toxic, so it is most certainly not a list of standards, rather it is a shopping list for research on standards. The next annual list of toxic substances will contain many more entries, especially pesticides and carcinogenic chemicals, and will provide more information about each substance.

In addition to supporting training of the traditional disciplines in the field of occupational safety and health, i.e., the safety engineer, the industrial hygienist, the occupational health nurse, the occupational health physician, the toxicologist, and the analytical chemist, NIOSH has taken off in a new direction and is promoting the development of a new professional type which will be called the occupational safety and health professional. This will be accomplished through a 4-year baccalaureate degree course which could be linked with an associate degree and/or a masters program. This occupational safety and health professional could not design a ventilation system or devise elaborate machine guards but he could recognize and evaluate occupational safety and health hazards and he would know where to go to get further help in controlling the hazards. This is the type of compliance officer which the Department of Labor is looking for.

Then there is the Office of Health Surveillance and Biometrics, which is called the National Health Hazards Survey. It answers the need to know more about the magnitude and extent of the exposure to occupational health hazards in the United States. The National Occupational Injury and Illness Reporting System will eventually accumulate data on the effects of exposure to the hazards, but for a long time occupational illnesses will be under-reported

because of non-recognition, non-specificity of symptoms and medico-legal problems. The first National Health Hazards Survey will be conducted by specially trained health hazards surveyors working out of the Regional Offices, using exacting surveying techniques and controls. They will be surveying a representative sample of about 9,000 manufacturing and service industries selected with the help of the Bureau of Labor Statistics. Actual survey will begin in January 1972 and should take about two years to complete. Information gained will be especially useful in assessing NIOSH priorities for research. Basic technique of surveying for health hazards was tried out in the Chicago Metropolitan Area in 1967. It is interesting to note that in 3 out of 4 plants surveyed, management did not recognize any health hazards in their plants, while in the surveyor's judgment only one out of four plants did not have any employees at risk to an occupational health hazard.

Recent teamwork between OSHA and NIOSH has appeared in Target Health Hazards Program announced January 4, 1972.

Five toxic substances--asbestos, cotton dust, silica, lead, and carbon monoxide--will be the focus of an accelerating thrust by OSHA and the National Institute for Occupational Safety and Health into the health aspects of the Occupational Safety and Health Act.

The campaign was described by Assistant Labor Secretary George C. Guenther as the health parallel to OSHA's safety-oriented Target Industries Program that is seeking to reduce injury frequency rates in five high-rate industries.

The Target Health Hazards program is in part a response to the finding that "60 percent of the employee complaints we have received since the Act became effective April 28, 1971, have involved health hazards", Guenther said.

OSHA inspection priorities are being altered, Guenther said. The new priorities are as follows:

1. Investigation of deaths or serious injuries (as at present);
2. Investigation of complaints (as now);
3. Special programs: Target Industry Program (as now); Target Health Hazards Program (new);
4. Random cross-section of establishments of all sizes across the nation (as now).

The Target Health Hazards program will focus on industrial hygiene inspections in several thousand establishments of varying size and type of operation. Together, these establishments employ more than 4 million persons.

The criteria for selection of the five toxic substances included the following:

Broad employee exposure to these substances and to the resultant severity of their hazards;

Standards for workplace exposure levels of all five are valid, with asbestos having been updated only last month;

The high priority accorded all five by NIOSH in its research efforts;

The feasibility for swift compliance action, especially in assessing environmental effects against established workplace limits.

Asbestos can produce a severe lung disease called asbestosis, Guenther said. In addition, asbestos fibers in the lung may lead to cancer. Employees facing risks from asbestos total more than 200,000 in the fields of insulation, manufacturing of products using asbestos, shipbuilding, construction, and others, he said. ✓

Cotton dust can produce byssinosis, a disabling lung disease. At risk are more than 800,000 employees in cotton processing operations of all types.

Silica can produce silicosis, another disabling lung disease. At risk are more than 1.1 million employees in abrasives, manufacturing, iron and mineral processing, sandblasting, and other operations.

Lead can produce severe gastrointestinal, blood, and central nervous system disabilities. At risk are more than 1.6 million employees engaged in the manufacturing of ammunition, paint, storage batteries, autos, and other products.

Carbon monoxide can produce brain damage or death. At risk are uncountable thousands in metal processing operations and users of gasoline-powered equipment.

Guenther emphasized that the new program involves close cooperation between OSHA and NIOSH. He noted that NIOSH has initiated a hazards evaluation program to permit employers and employees to request evaluation of hazard exposure conditions for which standards are non-existent or appear inadequate.

Two aspects of NIOSH program are of special current interest to us.

The priority list for Toxic Substances and Physical Agents will indicate order of standard-setting. (see attached priority list)

The hazard evaluation activity can mean facility inspections in addition to those by OSHA. Such inspections are generated when a health hazard citation of OSHA is contested. NIOSH is then requested to conduct such tests and determinations to establish the facts. Briefly, this means careful, scientific, pains-taking INSPECTION.

**REFERENCES**

**The Real Significance of Occupational Health**  
Marcus Key, M.D. Director of NIOSH  
Presented at National Safety Congress,  
Chicago 10/25/71

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CORPORATE SAFETY OFFICE

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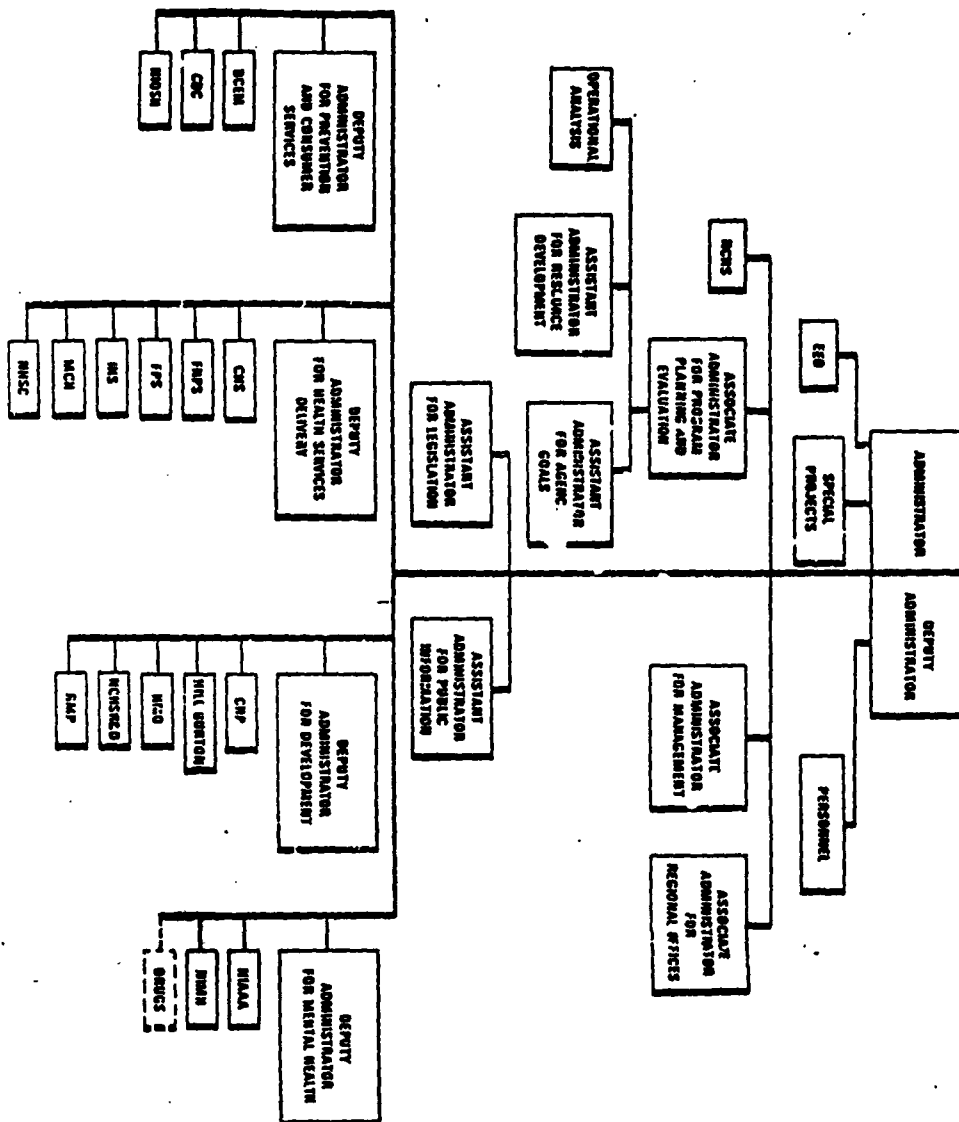


FIGURE # 1

# NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

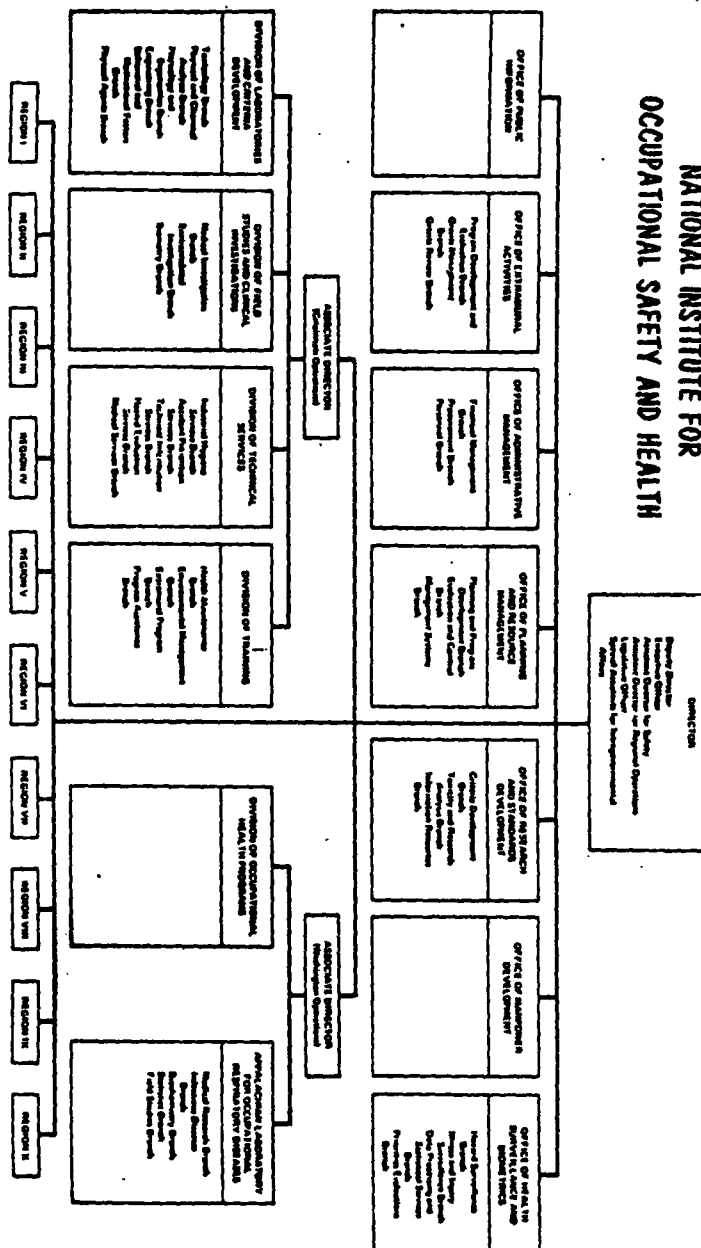


FIGURE # 2

**DRAFT OF PRIORITY LIST AND SUPPLEMENTARY MATERIAL PRESENTED  
BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH**

(Subject to revision based on Advisory Committee Comments)

The 1972 Priority List for Toxic Substances and Physical Agents was based on the priority system developed by the former Bureau of Occupational Safety and Health in anticipation of increased activities in the occupational health field. The objective of the list is to provide to the appropriate management functions within NIOSH the necessary data for establishing relative priority in the development of criteria packages. This list will aid researchers in identifying gaps in criteria information and in channeling the required resources to fill in those gaps. In this system, five weighted indices were assigned to each substance under consideration. These indices were rated on a scale of 9 to 1 and included the following:

1. Population Index (PI) - a relative evaluation of worker exposure.

2. Relative Toxicity Index (RT) - professional opinion on relative toxicity.

3. Incidence Index (II) - occupational disease records, physicians' first reports, workmens' compensation records - documented incidence of disease.

4. Quantity Index (QI) - amount produced or used each year.

5. Trend Index (TI) - estimates on increased or decreased usage.

The overall rating for each agent was tabulated according to the following formula:  $(2PI + 2RT + II + QI + TI)$  divided by 5. The ratings were made by the former Bureau of Occupational Safety and Health staff and by field industrial hygienists.

The list was updated first by applying the most recent exposure data available from the Office of Health Surveillance and Biometrics. This revised list was then distributed to experts in the occupational health field for evaluation and review. The expert opinions were reviewed and incorporated in the list.

Concurrently, the Priorities Evaluation Branch staff have been seeking out and establishing channels of communication with parties which can provide specific data input into a more sophisticated and objective priority system. Particular emphasis has been placed on the working relationship between the National Institute for Occupational Safety and Health and the Bureau of Labor Statistics and the Occupational Safety and Health Administration of the Department of Labor.

At the present time, the areas of health and safety are arbitrarily being developed as two separate areas of priority development. It was thought that this approach is best in that the bulk of expertise in NIOSH is primarily in the health field. A priority system for the relative evaluation of occupational safety hazards is being developed under contract at the present time. If feasible, the health and safety priority systems will be merged into one system when it is felt that a desired level of sophistication is reached in both.

**PRIORITY LIST FOR CRITERIA FOR TOXIC  
SUBSTANCES AND PHYSICAL AGENTS  
1972**

Criteria Developed: Asbestos and Coal Dust.

In Progress: Arsenic, Benzene, Beryllium, Cadmium and Compounds, Carbon Monoxide, Chromic Acid Mist, Cotton Dust, Fibrous Glass, Heat Stress, Lead, Mercury, Noise, Parathion, Silica, Trichloroethylene and Ultraviolet.

Priorities:

1. Bis(Chloromethyl) Ether, Coal Tar Pitch Volatiles, 2-Naphthylamine, Toluene Diisocyanate and Radioactive

Products of Uranium Mining (Gaseous and Particulate).

2. Benzidine and Its Salts, Carbon Tetrachloride, Ozone, Sulfur Dioxide and Tin and Compounds.

3. Chromium Compounds, Dichlorobenzidine, Oxides of Nitrogen, Sodium Hydroxide and Sulfuric Acid.

4. Carbaryl, Chloroform, 4-Dimethylaminoazobenzene, Nitric Acid and Toluene.

5. Ammonia, beta-Propiolactone, Epoxy Resins, Methylene Chloride and 4-Nitrodiphenyl.

6. Asphalt Fumes, Ethylene Dichloride, Fluoride and HF, Polychlorinated Biphenyls and Tetrachloroethylene.

7. 2-Acetylaminofluorene, Chlorobenzene, Methylene Bisphenyl Isocyanate (MDI), Phosgene and Trichloroethane.

8. Acetone, 4-Aminodiphenyl, Dieldrin, Malathion and N-Nitrosodimethylamine.

9. Aniline, Copper and Compounds, Cyanides, Styrene and Zinc and Compounds.

10. Chlorine, Formaldehyde, Manganese and Compounds, Phenol and Platinum and Compounds.

11. Acrolein, Aluminum and Compounds, Carbon Disulfide, Methyl Ethyl Ketone and Vinyl Chloride.

12. Creosote, Methyl Chloride, Nickel and Compounds, Phosphorus and Compounds and Tetrachloroethane.

13. Acrylonitrile, 2, 4-Dinitrophenol, Magnesium and Compounds, Methyl Alcohol and Paraffin.

14. Ammonium Nitrate, Cold Stress, Dioxane, Fluorine and Microwaves.

15. Hydrogen Chloride, Ethyl Benzene, Nitroglycerin, Vibration and Xylene.

16. Methyl Butyl Ketone, Mineral Spirits, Oil Mists, Selenium and Compounds and Turpentine.

17. Arsine, Gasoline, Kerosene, Iron and Compounds and Petroleum Naphtha.

18. Barotrauma, Cresol, Paraquat, Portland Cement and Talc.

19. Carbon Black, Coherent Energy (Laser Radiation), Ethylene Oxide, Impact Noise and Proteolytic Enzymes.