

Occupational Safety and Health: United States of America

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Introduction

The problem of assuring safe and healthful workplaces for men and women reached national attention in the United States because of the continuing increase in injuries and illness among workers. It was pointed out during Congressional hearings in 1969 that 14 500 persons were killed annually as a result of industrial accidents, and that 2.2 million persons were disabled on the job each year, resulting in the loss of 250 million man days of work. The picture for occupational health was just as bleak. Limited information and records indicated 390 000 new occurrences of occupational disease each year.

The same occupational diseases which first commanded attention at the beginning of the Industrial Revolution were still undermining the health of workers; and technological advances and new processes in American industry had brought numerous new hazards to the workplace. Carcinogenic chemicals, lasers, ultrasonic energy, metallics, epoxy resins, pesticides, among others, all presented incipient threats to the health of workers, and the distinction between occupational and non-occupational illnesses was growing increasingly difficult to define.

Resolution of these problems by the individual States had not proven sufficient to the need. The inadequacy of anything less than a comprehensive nationwide approach was exemplified by experience with the chemical beta naphthylamine—a compound so toxic that any exposure to it is likely to cause the development of bladder cancer over a period of years. The Commonwealth of Pennsylvania recognized this extreme effect of beta naphthylamine and banned its use, manufacture, storage, or handling in that State; but production of this potent chemical was begun in another State where legislation was inadequate. This, then, exemplifies how the spread of industry and the mobility of the workforce combined to make the health and safety of the worker truly a national concern.

The legislation enacted in the United States to attempt to provide a base for a uniform national approach to health and safety at the work site included several congressional acts, but the Occupational Safety and

In 1970 in the USA, the strategy of fighting professional accidents and disease underwent far-reaching changes. What legal bases, what administrative, scientific and technical structures were chosen? What is the present situation, and what is the outlook for the future?

Health Act of 1970 is the most pervasive of the legislative acts and serves as a prototype for administration of the national programme.

Major Provisions of the Occupational Safety and Health Act

The Act requires every employer subject to the Act to comply with occupational safety and health standards promulgated by the Secretary of the Department of Labour (DOL) in accordance with procedures provided in the Act. Salient aspects of these procedures are as follows:

Consensus Standards, Established Federal Standards, Proprietary Standards

Fort three years after passage of the Act, until April 1973, the Secretary of DOL was permitted to promulgate as Federal standards any of the national consensus standards and established Federal standards. The purpose of this procedure was to establish as rapidly as possible national occupational safety and health standards with which industry was familiar and to immediately provide a nationwide minimum level of health and safety. Two private organizations were and are the major sources of consensus standards: The American National Standards Institute, Inc., and the National Fire Protection Association.

The Secretary of DOL was also able to make use of so-called proprietary standards which have been produced by various industrial and professional groups, such as the American Conference of Governmental Industrial Hygienists, the Manufacturing Chemists Association, and the National Electrical Manufacturers Association.

Promulgation, Revision and Revocation of Standards

Although the consensus and other standards issued under the Act provided a foundation for a national safety and health programme, a number of the standards were out-of-date. Standards must be constantly improved and replaced as new knowledge and tech-

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niques are developed, so a separate section of the Act sets forth the procedures by which the promulgation of new standards, and the revision and revocation of adopted standards, are to be accomplished.

Standards promulgated under this section must include requirements regarding the use of labels or other forms of warning to alert employees to the hazards covered by the standard. They must also provide necessary information regarding proper methods of use or exposure, and appropriate emergency treatment; where appropriate, such standards would also prescribe protective equipment and other control measures, as well as, in the case of toxic substances or harmful physical agents, requirements for monitoring conditions or measuring employee exposure as may be necessary to protect employee's health. In addition, where exposure to potentially toxic substances of harmful physical agents is involved, the standard may prescribe medical examinations of employees when it is necessary to determine whether such exposure is having or is likely to have adverse effects on health. Insofar as practicable, standards are to be expressed in terms of objective criteria and the performance desired.

Emergency Standards

Because of the obvious need for quick response to new health and safety findings, still another section mandates the Secretary of DOL to promulgate temporary emergency standards if he finds that such a standard is needed to protect employees who are being exposed to grave dangers from potentially toxic materials or harmful physical agents, or from new hazards for which no applicable standard has been promulgated. Upon publication of such an emergency temporary standard, the Secretary of DOL must begin a regular standard setting procedure for such hazards, which proceeding must be completed within six months. Those emergency standards promulgated this far (as from June, 1977) are as follows:

- Asbestos Standard: An emergency standard was made effective December 7, 1971, setting limits for exposure to employees to asbestos dust. The permanent standard was adopted 7 June, 1972.
- Organo Phosphate Pesticides: An emergency standard was issued 1 May, 1973, and subsequently was stayed by court action.
- Carcinogens: An emergency standard was issued 3 May, 1973, and subsequently revised. The permanent standard was adopted 29 January 1974 and partially stayed for two substances used in laboratory operations.
- Vinyl Chloride: An emergency standard for vinyl chloride was made effective 5 April, 1974. The permanent standard was adopted 4 October, 1974.
- Benzene: An emergency standard for benzene was issued on 3 May, 1977, to become effective 21 May 1977. The effective date of the standard, however, was stayed by court action. The standard was aimed at reducing the risk of leukemia.

Variations

The Act provides that any affected employer may apply to the Secretary of DOL for a variance from a standard otherwise applicable to him. Any employees under this employer must be notified to the application and given an opportunity to participate in a hearing. To receive a variance, the employer must demonstrate by significant evidence that he will provide to his employees employment which is as safe and healthful as would prevail if he complied with the standard.

Judicial Review of Standards

There is provision under the Act that any person who may be adversely affected by a standard may, within 60 days of its issuance, seek judicial review in an appropriate United States court of appeals.

Duty of Employer

The Act stipulates that employers have primary control of the work environment and should ensure that it is safe and healthful. This is recognized as a general duty and provides that employers must furnish employment "which is free from recognized hazards so as to provide safe and healthful working conditions". There is no penalty for violation of the general duty clause. However, if the employer refuses to correct the unsafe condition after it has been called to his attention, and made the subject of an abatement order, a penalty can be imposed. Before that is done, the employer would be entitled to a full administrative hearing, followed by judicial review, if he disagrees that the situation in question is unsafe.

Obligations of Employees

No occupational safety and health programme can be effective without the fullest cooperation of affected employees. The Act expressly places upon each employee the obligation to comply with standards and other applicable requirements.

Studies of employee motivation are among the research efforts which may be undertaken under the Act. The employee-duty does not diminish in any way the employer's compliance responsibilities or his responsibility to assure compliance by his own employees. The final responsibility for compliance with the requirements of the Act, therefore, remains with the employer.

Inspections and Investigations

In order to carry out an effective national occupational safety and health programme, it is necessary for government personnel to have the right of entry in order to ascertain the safety and health conditions and status of compliance of any covered employed establishment. The Act therefore authorizes certain government personnel, upon presenting appropriate credentials, to enter at reasonable times the premises of any place of employment covered by this Act, to inspect and investigate within reasonable limits all pertinent conditions, and also to privately question owners, operators,

agents or employees. This right of entry has been challenged in the courts and one case has reached the United States Supreme Court.

In order to aid the inspection and provide an appropriate degree of involvement of employees themselves in the physical inspections of their own places of employment, an authorized representative of employees is given an opportunity to accompany the person who is making the physical inspection. In addition, the inspector may question employees in private so that they will not be hesitant to point out hazardous conditions which they might otherwise be reluctant to discuss.

In order that employees will be informed of any violation found by the inspector, there is specified that citations shall be prominently posted near the place where the violation occurred. In addition, employees or a representative of employees may, before or during an inspection, give written notification to the Secretary of DOL or an inspector of any violation which they believe exists, and such employees or representatives of employees shall be provided with a written explanation when no citation is issued respecting such alleged violation.

Employees or a representative of employees who believe that a health or safety violation exists which threatens physical harm or that an imminent danger exists, are entitled to request a special inspection by giving notification to the Secretary of DOL, setting forth the basis of the request.

In addition to the inspection authority, the Secretary of DOL is granted a subpoena power over books, records and witnesses—a power which is customary and necessary for the proper administration and enforcement of a statute of this nature.

Procedures to Counteract Imminent Dangers

In situations of imminent danger, the Secretary of DOL may bring action in the appropriate United States district court for a temporary restraining order or an injunction requiring steps to be taken to correct remove or avoid the danger, and prohibiting the presence of individuals where the imminent danger exists. However, the bill authorizes the continued presence of individuals necessary to the correction or removal of the danger or to maintain the capacity of a continuous process operation to restart without a complete cessation of operations, and to permit any necessary shutdown of operations to be accomplished in a safe and orderly manner.

Citations for Violations

If it is determined upon inspection or investigation that an employer has violated certain provisions of the Act, a citation is issued to the employer. Such citation, which provides the basis for subsequent enforcement procedures, shall be in writing, shall describe the particulars of the violation, and shall fix a reasonable time for abatement of the violations. A copy of the citation shall be posted at or near each place of violation.

There is also provision of procedures for the issuance of a notice in lieu of a citation when the inspector finds “de minimis” violations which have no direct or immediate relationship to safety or health.

Procedures for Enforcement

If there is a citation for a violation, the employer is notified within a reasonable time by certified mail of any penalty. The notice must also advise the employer that he has 15 working days within which to notify the Secretary of DOL that he wishes to contest the citation or proposed assessment of penalty. If the employer does not file such a notice within that time period, the citation and proposed penalty become final.

Similarly, if the Secretary of DOL has reason to believe that an employer has failed to correct a violation for which a citation has previously issued, during the time permitted for correction, or has failed to comply with an imminent danger order issued by the Secretary, the employer is notified by certified mail of such failure and of the penalty proposed to be assessed. The employer shall also have 15 days to contest such notification or proposed assessment of penalty, and, if he does not do so, they become final.

If the employer decides to contest a citation or notification, or proposed assessment of penalty, there is opportunity for a formal hearing. The procedural rules prescribed for the conduct of such hearings make provision for affected employees or their representatives to participate as parties.

The employee or representative of employees also has a right, whenever, he believes that the period of time provided in a citation for abatement of a violation is unreasonably long, to challenge the citation on that ground. The employer is to be given an opportunity to participate as a party to the hearing on such a challenge.

Any person adversely affected or aggrieved by a final order which is issued after a hearing may obtain review in the appropriate United States court of appeals within 60 days.

Penalties

The Act provides for civil penalties of up to \$10 000 for willful or repeated violations; for which a citation has issued, or for failure either to correct a violation within the time prescribed, or to comply with an imminent danger order. In the case of a failure to correct a violation, the penalty applies to each day of failure (excluding any period of review proceedings which the employer has initiated in good faith). In the assessment of penalties consideration shall be given to the size of the business involved, the gravity of the violation, the history of previous violations, and the good faith of the employer. The Secretary of DOL may compromise, mitigate, or settle any claim for such penalties.

Recordkeeping and Reports

Full and accurate information is a fundamental pre-

condition for meaningful administration of an occupational safety and health programme. The Secretary of DOL is directed by the Act to cooperate with the Secretary of DHEW in devising regulations which will implement the goal of completeness in the recording and reporting of pertinent data. Such regulations have been issued.

Monitoring of hazardous Substances and physical Agents

The Secretary of DOL, in cooperation with the Secretary of DHEW, is authorized to issue regulations specifying the records to be kept by employers who are required to monitor employee exposures to potentially toxic materials or harmful physical agents. Since such exposure is a matter of crucial concern to affected employees, provision is also made for employee observation of such monitoring and for employee access to the records thereof. This section also requires the employer to promptly notify any employees who have been or are being exposed to harmful materials or agents in concentrations or at levels above those prescribed in applicable standards, of that fact and of the corrective action being taken.

Federal-State Relations

The Act makes it clear that no State will be prevented from asserting jurisdiction under state law over any occupational safety or health matter for which no Federal standard has been established under the Act. Moreover, whenever a State wishes to assume responsibility for developing or enforcing standards in an area where standards have been promulgated under this Act, the State may do so under a State plan approved by the Secretary of DOL.

Research and related Activities: The National Institute for Occupational Safety and Health

The hearings prior to passage of the Occupational Safety and Health Act made unmistakably clear the critical inadequacy of past and current research activities to furnish solutions to the problems of occupational health and safety. Accordingly, the Act places a specific responsibility upon the Secretary of DHEW to carry on a variety of research activities.

In addition, the Secretary of DHEW is responsible for producing criteria upon which the Secretary of DOL may promulgate occupational safety and health standards. Such criteria are scientifically determined conclusions, describing medically acceptable tolerance levels of exposure to harmful substances or conditions over a period of time, and may include medical judgments on methods and devices used to control exposure or its effects. There is a serious need for criteria for a growing number of new toxic industrial chemicals, as well as such physical hazards as noise, vibration, extremes of temperature and humidity, effects of parts of the electromagnetic spectrum, and extremes of pressure.

In order to carry out research functions, the Secretary of DHEW is given authority to require employers to measure and report on employee exposure to substances and physical agents which may be harmful, and to establish programmes of medical examinations for determining the incidence of occupational illness and susceptibility of employees to such illness. When such programmes of medical examinations are established for research purposes, they may be furnished at the expense of the Government; in addition, provision is made for the Secretary of DHEW to furnish financial and other assistance to employers in order to defray additional expenses incurred in carrying out programmes of measuring and recording exposures for research purposes.

The Act further requires the Secretary of DHEW to publish and regularly maintain a list of all substances used or found in the workplace and known to be potentially toxic, and the concentrations at which toxicity is known to occur. This list is known as the Registry of Toxic Effects of Chemical Substances. The first list was produced in 1971. It has been revised and reissued annually since then.

Provision is made for employers or employees to request a determination regarding the potential toxicity of any material normally found in the workplace. Any such determination shall be furnished to those affected, and, if the substance is not covered by an existing standard, the determination shall also be submitted to the Secretary of DOL so that he may take appropriate action. The Health Hazard Evaluation (HHE) Programme of the National Institute for Occupational Safety and Health (NIOSH) has responded to approximately 900 inquiries from both employees and employers. Of particular significance in their activities was participation in meeting the vinyl chloride and kepone problems in the United States.

The Act also makes specific provision for studies of the effects 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.

In order to provide occupational health and safety research with the visibility and status it merits, the Act established within the DHEW a new Institute, mentioned above. The Institute has the responsibility for conducting research into all phases of occupational health and safety on an in-house and contract basis in order to develop and establish recommended occupational safety and health standards. The NIOSH is also authorized to perform all of the research, training and related activities to be performed by the Secretary of DHEW.

On the basis of its research the NIOSH formulates recommended occupational health and safety standards and transmits them to the Secretaries of DOL and DHEW for appropriate further action in accordance with the procedures established for the promulgation of mandatory standards.

Training and Employee Education

One of the essential contributions Government can make to insuring the health and safety of employees is through the dissemination of vital health and safety information and the development of necessary educational and training programmes; the enactment of an effective law will not achieve its purposes, unless proper resources are directed toward appropriate education and training activities.

A substantial increase in manpower with professional competence is plainly needed to bring about a successful programme. To help meet this need the Secretary of DHEW after consultation with the Secretary of DOL, is authorized to conduct programmes for the education of safety and health personnel.

In order to promote a greater awareness of safety in the workplace, there is provision for the training of employers and employees in sound safety and health practices. This has been carried out initially by the NIOSH and currently by the DOL.

Some specific Aspects of the current Status of Occupational Safety and Health

Implementation of the Congressional mandates of the Occupational Safety and Health Act, which intends to minimize health and safety risks arising from exposure to hazardous chemical and physical agents in the United States, is a very difficult long range problem.

Considerable progress has been made since the Act had its beginning in 1970, but with such widespread and new legislation as this it could be expected that problems would occur. Foremost among these was the shortage of qualified manpower to carry out the mandates of the Act. Industry, academia and government were in short supply of physicians, nurses, industrial hygienists, epidemiologists, toxicologists, and other essential professional categories.

A recent article¹ points out the critical shortage of just one of the professional categories, i.e. industrial hygiene, which has a projected 8 % annual growth rate in job openings in the United States. Requirements for industrial hygienists far exceed the estimated supply of 4000 currently at work. The DOL alone employs 427 hygienists and is quoted as saying that it would like to hire a further 100 to 200 within the year—if they can be found. Despite good salaries, industrial hygienists are being turned out of universities at a rate of only 80 to 100 a year. In order to stimulate graduate-degree programmes in industrial hygiene, the NIOSH plans to spend \$3.3 million of its annual budget to create occupational health training centres at eight universities. In addition, the DOL is trying to create its own hygienists by hiring persons with bachelor's degrees in engineering and physical or biological science so that they can then be given training which combines graduate studies with on-the-job experience for three years.

The shortage of all categories of health professionals in the field of occupational safety and health in the United States will undoubtedly get worse before it gets better. This is not just the result of the Occupational Safety and Health Act of 1970, but also stems from new legislation in 1977 known as the Toxic Substances Control Act which is intended to prevent the introduction or restrict the commercial use of new chemicals and substances which could pose an unreasonable risk to health or to the environment. Requirements for assessment of safety of chemicals will draw heavily on available toxicologists, physicians, epidemiologists, statisticians, etc.

A continuing problem in the United States, as well as for any country, and one which links directly with availability of qualified manpower, is that associated with identification of workplace hazards relative to populations at risk, either from past exposures or possible new hazards. Thus, assessment of the magnitude of exposure of populations to a wide variety of potentially harmful chemical and/or physical agents has become a task of indescribable complexity. Such assessment, at least in some reliable parameter, is necessary, if we are to eventually gain and understand technologies we can live with.

In an attempt to determine the extent of workers exposure to chemical substances and physical agents in the United States the NIOSH conducted the National Occupational Hazard Survey between 1972 and 1974 in 4636 workplaces. These were selected to give a representative sample of industries by type and size. Trained engineers and hygienists collected general information such as the major products or service, the number of employees, the number of workers in each job category potentially exposed to chemical and physical agents, and the availability and kind of medical care. It was found that employers were not often aware of the chemical composition of the substances used in their factories and that over 70 % of the exposures identified were for trade name products for which the chemical composition was not even known to the management. The NIOSH staff have made contact with more than 10 000 manufacturers in order to precisely identify the chemicals contained in trade name products, and the yield to date has only been about 50 %. Many manufacturers maintained that their products contained trade secrets and therefore chemical composition was not revealed.

Another approach the NIOSH has taken to help characterize exposure of workers to hazardous agents has involved industrial hygiene surveys and epidemiological studies (which go hand in hand) of specific cohort groups within specific industries. As examples of such, the NIOSH has studied:

- 15 000 uranium miners exposed to radon daughters;
- 10 000 fibrous glass workers;
- 10 000 workers exposed to asbestos;
- 7 600 plastics workers exposed to polyvinyl chloride;

¹ Industrial Hygienists in Strong Demand as US Widens Role in Workplace Safety. Wall Street Journal, 2 August 1977.

- 6 000 rubber workers exposed to styrene butadiene;
- 4 000 workers exposed to benzene;
- 5 000 workers (machinists) exposed to cutting oils;
- 2 550 workers exposed to vinyl chloride;
- 2 000 workers exposed to perchloroethylene;
- 1 500 workers exposed to benzidine.

Some of these studies have collected both morbidity and mortality data while all were conducted with some hygienic measurements to characterize the work environment. Studies of similar type but smaller scale were completed on 16 other agents involving about 36 000 workers.

In addition, the NIOSH HHE Programme utilizes the industrial hygienist/nurse or medical officer investigation team in responding to requests from employers or employees regarding the potential toxicity of chemical agents in the work environment. Essential to the success of the investigation team concept are the auxiliary laboratory sciences, e.g., disciplines involved with instrument calibration, the development of sampling and analytical methodologies, and adequate toxicological verification and/or evaluation. To date this programme has responded to approximately 900 enquiries. The NIOSH requirement for resources of trained personnel in fields of speciality as those above are but one facet of the total picture when one considers the requirements for the DOL inspections, for industry, and for private organization contractors as well as universities who conduct field investigations for government, for industry and for unions. Thus, one readily sees the competition for professionals in industrial hygiene, epidemiology, toxicology, statistics and general engineering, chemical and medical sciences associated with occupational safety and health in the United States.

A very important aspect of fulfilling the requirements of the Act has to do with dissemination of information so that it will do some good and not be collected for the sake of collection. A close connexion is seen between this responsibility and keeping employers and employees informed when they have a hazardous situation. The first is more easily accomplished than the second providing that the resources are made available.

One of the greatest responsibilities mandated by the Act, to the NIOSH, is the development and recommendation of work environment standards. The NIOSH has transmitted to the DOL more than 60 criteria documents recommending new health standards which include an environmental limit for workplace exposure, types and use of labels and other warnings, type and frequency of medical examination to be offered by an employer, sampling and analytical methodology, suitable personnel protection equipment and in some instances procedure for hazards control technology. In addition to the criteria documents there is a Standards Completion Programme (SCP) to draft technical standards which will supplement the existing

environmental limits with procedures for informing employees of hazards, monitoring methods, engineering control methods, and medical monitoring. Once the SCP standards are promulgated into enforceable standards by the DOL, there would result a high degree of worker protection from the majority of occupational hazards. The NIOSH will soon publish five documents which present all of the supplemented information on the approximate 400 consensus health standards.

Other methods of information dissemination, besides the annual Registry of Toxic Effects of Chemical Substances which is a requirement placed upon the NIOSH by the Act, are Current Intelligence Bulletins (CIB's) and Health Hazard Evaluation (HHE) reports. The CIB is issued when the NIOSH receive new information on potentially dangerous chemical substances. They provide background information on a chemical substance, including its known toxicity to man and animals, the known producers and users, the estimated extent of occupational exposure, and a statement as to what action is to be taken regarding the substance. The CIB's are distributed to approximately 1200 representatives of the occupational safety and health community, to other governing agencies, to management, and to labour and public interest groups. The HHE reports are a result of the investigations of requests from employers and employees representatives concerning the quality of their workplace environment. An HHE Report presents results of environmental sampling, as well as medical examination of workers and any toxicity determinations. It also includes recommendations for work practices, personnel protective equipment and engineering controls. All reports go to factory management, employer representatives and various echelons of the DOL. It should be noted here that HHE's are rather unique in that they generally investigate the real world situation where work exposures rarely occur as single agents, but practically always a combinations of chemical and/or physical agent exposures. These conditions quite often present problems never before encountered, e.g., effects of combinations of agents on routine sampling and analytical methodologies, etc. The information should one day prove invaluable since it is precisely the sort needed to test theory. Those aspects of additive effects, synergism and/or antagonism may be better elucidated by collection of the type of data provided in the HHE Reports. Therefore, although the HHE Programme of the NIOSH is not meant to be a research mechanism, there is, in fact, the collection and analysis of industrial hygiene and medical data which has research application. Another important facet of this particular programme is the role it plays in the surveillance of problem areas with chemical and physical agents in the work environment. Although the HHE Programme is mandated to investigate only those complaints involving chemical agents, the requests from employers and employees quite often allude to their problems with physical agents. Thus,

there is an inventory of the type and nature of the complaints arising from the industrial scene.

Conclusion

The following estimates are based upon information derived from the NIOSH studies and surveys which attempt to quantify the magnitude of health hazard exposure in the American Workplace.

1. As many as 880 000 American workers or 1 % of the current labour force of 84 million persons currently face full or part-time exposure to carcinogens regulated by the DOL. This says little about those agents for which carcinogenicity is not yet known.

2. One in every four American workers (approximately 21 millions) currently may be exposed on either a full or part-time basis to hazardous substances which are regulated by the DOL. Upwards of 40 to 50 million persons or 23 % of the general population in the United States may have had exposure to one or more of the DOL-regulated hazardous substances during their working lifetime.

These estimates give some idea regarding the magnitude of the problems confronting industry, unions, academia and government, and tell something about the status of occupational health and safety in the United States today. The manpower and dollar resources tied up in all aspects of this defies the imagination. Some feeling for the magnitude of economics is gained from a single statement of a recent report¹ of the NIOSH:

“The annual social costs of monitoring workers with either full or part time exposures to all OSHA regulated hazardous substances including carcinogens could range between \$675 million and \$2 billion.”

One of the major problems confronting health professionals in the United States today involves the large numbers of workers (as well as substantial numbers of the general population) who have already been exposed and are continuing to be exposed to a wide variety of potentially harmful chemical and physical agents. Most of these citizens are not aware of such exposures and there has been congressional concern about the failure of the Federal Government to provide timely, adequate information to individual workers facing an increased risk of developing cancer and other diseases as a result of workplace exposures. The Senate Human Resources Committee has brought this issue to the forefront by requesting an investigation into the “social responsibility of biomedical research for occupational health and the need for employers with knowledge to take affirmative action to notify and provide fair health protection from exposure to health related environmental risks and to assure protection for workers and their families from work related environmental health risks”¹.

Accordingly, even though the accomplishments have been many since passage of the Occupational Safety and Health Act of 1970, it becomes readily apparent that the tasks still to be undertaken and the problems to be solved are quite enormous.

Summary

The major legislation in the United States to implement safety and health in the workplace is the Occupational Safety and Health Act of 1970 (Public Law 91-595). The United States has enacted a number of laws to reduce the number and severity of work-related injuries and illnesses which, despite efforts of employers and government, were resulting in ever-increasing human misery and economic loss.

The Act calls not only for enforcement of standards but for programmes of research, education and training. The Secretary of the Department of Labour Uniformly applies occupational safety and health standards which have been developed with the assistance of the Secretary of the Department of Health, Education and Welfare. A strong programme has been developed in research and application of research to problems in the special areas of mining, construction, and agriculture, as well as for general industry and other employment.

Résumé

Hygiène et sécurité du travail: Etats-Unis d'Amérique

Aux Etats-Unis d'Amérique, le principal texte législatif concernant l'hygiène et la sécurité du travail est l'Occupational Safety and Health Act de 1970 (Public Law 91-596). On a promulgué un certain nombre de lois et de règlements visant à réduire le nombre et la gravité des accidents du travail et des maladies professionnelles qui, en dépit des efforts des employeurs et des pouvoirs publics, occasionnent toujours davantage de souffrances humaines et de pertes économiques.

L'Occupational Safety and Health Act prévoit non seulement l'application de normes appropriées, mais encore l'exécution de programmes de recherche, d'enseignement et de formation. Le Secrétaire au Travail veille à ce que soient respectées partout les normes d'hygiène et de sécurité du travail mises au point avec le concours du Secrétaire à la Santé, à l'Education et à la Prévoyance sociale. Il existe, en outre, un important programme de recherche et d'application des résultats de la recherche dans l'industrie en général et dans les autres branches d'activité, notamment dans les domaines spécialisés des industries extractives, du bâtiment et de l'agriculture.

Zusammenfassung

Arbeitsmedizin und Sicherheit am Arbeitsplatz: USA

Das wichtigste Gesetz in den USA, das Sicherheit und Gesundheit am Arbeitsplatz gewährleistet, ist der «Occupational Safety and Health Act» des Jahres 1970 (Public Law 91-596). Die USA haben mehrere Gesetze verabschiedet, um die Zahl und die Schwere von Berufsunfällen und -krankheiten zu vermindern, die trotz der Bemühungen von Arbeitgebern und Regierung zunehmend menschliches Leid und ökonomische Verluste zur Folge haben.

Das Gesetz fordert nicht nur die Durchsetzung von Normen, sondern auch Programme für Forschung, Erziehung und Ausbildung. Der Vorsteher des Departement of Labour wendet einheitlich die Normen auf dem Gebiet der Arbeitsmedizin und Sicherheit am Arbeitsplatz an, die mit Unterstützung des Vorstehers des Departement of Health, Education and Welfare erarbeitet wurden. Ein weitreichendes Programm wurde für die Forschung und die Anwendung der Forschung auf Probleme des Bergbaus, des Bauwesens und der Landwirtschaft wie auch für die allgemeine Industrie und andere Beschäftigungszweige entwickelt.

¹ The Right to Know: Practical Problems and Policy Issues Arising from Exposure to Hazardous Chemical and Physical Agents in the Workplace. A report from the NIOSH, Rockville, Maryland, USA, 1977.