

General Policy

HOUSE SELECT LABOR SUBCOMMITTEE SCHEDULES OVERSIGHT HEARINGS ON OSHA

Oversight hearings on the Occupational Safety and Health Act will be held by the House Select Labor Subcommittee on March 19-20.

A spokesman for the subcommittee suggested that additional hearings might be held two days per month for the remainder of the year. The Senate Committee on Labor and Public Welfare intends to hold oversight hearings on OSHA this spring, but has not set specific dates.

Representatives of the Occupational Safety and Health Administration, the National Institute for Occupational Safety and Health, the Occupational Safety and Health Review Commission, and labor and management organizations are expected to testify during the first subcommittee hearings.

The hearings will be held in Room 2175 of the Rayburn Building, Washington, D.C.

Variances

CONTINENTAL CAN COMPANY APPLIES FOR POWER LOCK OUT SWITCH VARIANCE

An application for a variance from standards which require locking out the source of power at a main current disconnect switch before working with machinery was submitted to the Occupational Safety and Health Administration by the Continental Can Company, Inc., Augusta, Ga.

Continental Can has developed a single tag-out system which is part of all new employee training programs.

The OSHA announcement of the variance application appears in the Full Text section of this report.

Health Hazards

UNIONS, COMPANIES DISAGREE ON NEED FOR VINYL CHLORIDE EMERGENCY STANDARD

Representatives of unions and management disagreed whether the vinyl chloride hazard problem would best be solved through an emergency temporary standard or through the regular standards-setting process during a Labor Department hearing on February 15.

Spokesmen for the United Rubber Workers, the Oil, Chemical, and Atomic Workers, and the Industrial Union Department, AFL-CIO, petitioned the Occupational Safety and Health Administration for an emergency rule, while representatives of B. F. Goodrich Chemical Company, Shell Chemical Company, and Dow Chemical Company called for regular standards action under Section 6 (b) of the Occupational Safety and Health Act.

The controversy arose following the deaths of workers at the B. F. Goodrich plant in Louisville, Ky., from angiosarcoma, a rare liver cancer (Current Report, February 14, p. 1164).

NIOSH Status Report

Vernon Rose, assistant director, National Institute for

Occupational Safety and Health, said a bibliography of all literature pertinent to hazards associated with vinyl chloride was assembled by NIOSH and additional literature is being retrieved. The bibliography, along with copies of all cited references, will be sent to the Labor Department, Rose said. Had not B. F. Goodrich taken the initiative in following up on suspicions aroused by occurrence of liver cancer in several employees at autopsy, it is entirely possible that the significance presently attached to the appearance of these tumors would not have been realized for several more years, he said.

At a NIOSH briefing session for management and unions it was concluded that the disease was associated with the polymerization of vinyl chloride in the manufacture of polyvinyl chloride and that vinyl chloride was suspected as the prime etiologic candidate among the more than 50 chemicals used in the Louisville facility, Rose said.

Italian Studies

Professor Cesare Maltoni, Bologna, Italy, reported on Italian studies that showed vinyl chloride exposure levels of 30,000 parts per million, four hours per day, five times weekly, for 10 months, produced tumors in rats. The tumors were interpreted as arising in skin, lungs, and bones.

The conclusions of the study (conducted by Professor Viola) were as follows: (1) under experimental conditions, vinyl chloride definitely showed a carcinogenic effect on rats, (2) 30,000 ppm of vinyl chloride was an extremely high level of exposure, (3) the tumors described as cutaneous were arising in the Zymbal glands, which in rats are responsive to a large spectre of carcinogens, and (4) the tumors described as lung tumors were most likely metastases from Zymbal glands carcinomas. The pulmonary neoplastic deposits were in fact morphologically similar to the Zymbal glands carcinomas, and all were observed in animals bearing Zymbal glands tumors.

Reporting on additional studies, Maltoni said liver angiosarcomas have never been experimentally produced in rats. Liver angiosarcomas of a different morphological type and with a much less malignant picture have been described in mice, following long-term treatment with ethyl-carbamate.

Liver angiosarcomas are quite rare in man, Maltoni said. Few cases have been reported in humans, following medical exposure to radium and thorotrast.

A Late Response

Dr. Irving J. Selikoff, Mt. Sinai School of Medicine, New York, N.Y., said there has been evidence of potentially serious disease among workers engaged in vinyl chloride manufacture for 25 years which has been incompletely appreciated and inadequately approached by medical scientists and regulatory authorities.

Acute animal toxicity to vinyl chloride was reported as long ago as 1938 and important chronic toxicity was reported in 1961, Selikoff said. As far back as 1949 liver damage was found in 15 of 48 exposed workers in Russia and disease of the liver, skin, and other organs was reported in the next 17 years from Rumania, Russia, and France.

There has been ample warning that cells, tissues, and

organs could be badly damaged during vinyl chloride/polyvinyl chloride production but the approach to the problem has been leisurely, Selikoff said.

The cancer identified with vinyl chloride exposure is invariably fatal, Selikoff said. About 100 cases are known to have occurred in medical history and no one was cured.

The discovery of vc/pvc associated cancer gives added reason for urgent concern, Selikoff said, since the tumor joins other serious burdens of vc/pvc exposure. Recent studies in Germany have shown that liver damage is far more common and far more serious than was expected.

To control worker exposures, Selikoff made several recommendations to the Labor Department including the following.

(1) vc/pvc should be added to the list of carcinogens included under the current OSHA standard.

(2) The guiding rule should be that no further exposure be allowed by any route.

(3) Large-scale epidemiological and clinical studies should be mounted as rapidly as possible to determine the full extent and nature of the hazards.

(4) Research should be begun immediately to develop early diagnostic techniques for vc/pvc-associated tumors.

(5) It would be desirable to develop early methods of diagnosis of the tumor. Perhaps new techniques of radioactive scanning will allow early detection.

(6) Programs of therapy should be developed.

(7) Early diagnosis and treatment would be expedited and advanced if basic mechanisms of damage could be defined.

(8) The disciplines of experimental toxicology and experimental pathology should be used to undertake basic studies to sort out the effects of various materials and agents.

(9) The full extent of the occupational problem should be defined.

No effect should be spared and no control should be considered too rigorous, Selikoff said.

Emergency Rule Petition

A petition for an emergency standard for vinyl chloride was submitted to OSHA during the hearing by Sheldon Samuels, Industrial Union Department, AFL-CIO, on behalf of the IUD and the United Rubber Workers.

About 10 corporations and at least 6,500 production workers, organized by affiliates of the IUD, are directly exposed in vinyl chloride synthesis and its polymerization, Samuels said. It is clearly the responsibility of the Secretary of Labor to determine that employees are exposed to grave danger in the polymerization process by which polyvinyl chloride resin is produced. The issuance of an emergency standard is imperative.

Rubber Workers Support

Louis Beliczky, director of industrial hygiene, United Rubber Workers, supported the plea for issuance of an emergency standard. Vinyl chloride is the chief suspect and thousands of workers are involved, he said.

An overall exposure limit of 0.01 percent should be achieved as soon as possible, Beliczky said. The lack of many reported deaths does not mean there is not a

serious problem. Many deaths are mis-diagnosed and many additional employees are ill and may die.

Dr. Henry Anderson, Mt. Sinai School of Medicine, said an effective medical examination protocol must be established immediately for vinyl chloride workers. This protocol should include a case history, physical examinations, X-ray examinations, pulmonary function tests, blood tests, and urinalysis. At least every three years, NIOSH should convene a committee to review and evaluate the medical surveillance tests, he said.

University of Pittsburgh

Dr. Thomas F. Mancuso, University of Pittsburgh Graduate School of Public Health, Pittsburgh, Pa., recommended that NIOSH take the initiative and conduct its own independent extensive study of the cancer potential and health risks associated with exposure to polyvinyl chloride processes.

An international research committee on vinyl chloride and cancer should be organized with representatives of other countries, Mancuso said. A Government conference of representatives of all the federal agencies concerned directly or indirectly with job cancer and the study of the industrial environment should be convened so that an evaluation can be made of the resources and funds appropriated, and the nature and extent of the various programs, efforts, and funds concerned with the identification and control of occupational cancer.

The international unions should assume as a major objective, in conjunction with the universities and medical centers, a concentrated effort to study the cancers which are occurring among union members, and the relationship to particular occupations, work processes, chemicals, and industries.

Oil, Chemical, and Atomic Workers

Anthony Mazzocchi, citizenship-legislative director, Oil, Chemical, and Atomic Workers Union, said "we have studied the evidence that has been made available and we have concluded that vinyl chloride is a carcinogen."

The criterion for granting an emergency standard rests on a two-fold evaluation involving a demonstration of a grave danger from exposure to the particular chemical and the necessity of a regulation to afford protection, Mazzocchi said. It is clear beyond the shadow of a doubt that these two criteria have been met in the case of vinyl chloride. A grave danger exists from cancer yet industry has failed to protect its employees.

The OCAW joins the IUD and Rubber Workers in calling for an emergency standard, Mazzocchi said. "What we now know about the relation between cancer and vinyl chloride is only the tip of the iceberg because of the long latency period," he said.

Manufacturing Chemists

A.C. Clark, vice president, Manufacturing Chemists Association, said vinyl chloride is a chemical derived ultimately from petrochemical feedstocks and chlorine. Of the 5.2 billion pounds produced in 1972, all but a small fraction was used in the production of various plastics.

The importance of pvc production is not measured just by the value of the unprocessed polymer, but more

properly by the almost universal dependence of nearly every branch of industrial and commercial activities upon products and components fabricated with the plastic. It has been estimated that the wholesale value of the annual output of fabricated products is over three billion dollars, Clark said.

Recognizing that there must always exist a substantial degree of uncertainty in extrapolating the results of animal studies to the evaluation of workplace hazards, MCA contracted with Tabershaw-Cooper Associates, Berkeley, Calif., to conduct a study of the cases of death in vinyl chloride and polyvinyl chloride production workers. The objectives are (1) to compare the mortality of individuals who have worked in vinyl chloride plants with the general population, (2) to compare mortality patterns within the population of vinyl chloride workers, based upon estimated occupational exposure, and (3) to compare mortality among vinyl chloride workers with other occupational groups TCA has studied. The study is in its eighth month and a final report is expected in April, Clark said.

Although the mortality statistics are incomplete, and have not been analyzed, a preliminary review of the current data from all plants other than the B.F. Goodrich plant fails to show any obvious departure from the pattern and incidence of the deaths that would be expected among a population of the kind that has been the subject of this survey.

MCA is temporarily withdrawing its Chemical Safety Data Sheet for vinyl chloride which recognized Dr. Viola's work but stated "many years of industrial experience with human exposures to concentrations frequently far above current standards have not demonstrated any carcinogenicity to humans," Clark said. MCA will expedite the reissue of this data sheet revised as necessary to reflect new knowledge concerning possible hazards of vinyl chloride exposures.

Manufacturers are aware of the potential hazard of vinyl chloride and are voluntarily taking steps to reduce employee exposure, Clark said. Substantial research is now in progress, the results of which will provide a firm basis for any standard applicable to vc/pvc manufacture.

"Therefore, it is their recommendation that OSHA proceed under the provisions of Section 6(b) of the Act," Clark said.

B.F. Goodrich Company

Anton Vittone, Jr., division president, B.F. Goodrich Chemical Company, Cleveland, Ohio, said "our discovery of four deaths from a rare type of liver cancer among employees at our Louisville plant was, to our knowledge, the first evidence indicating a possible relationship between human angiosarcoma and chlorinated hydrocarbons used in the production of polyvinyl chloride resins."

The company's efforts to maintain a safe working environment over the years have "resulted in decreasing levels of exposure with time," Vittone said. B.F. Goodrich independently and through the MCA stepped up its precautionary safety activities and research after European studies indicated that tumors could be produced in rats at exposure levels far above those prescribed for pvc working conditions.

The company conducted an inspection of its Louisville facility and concluded "the existing situation warranted continued operation of the polyvinyl chloride facility," Vittone said. The situation was discussed with plant employees, union representatives, and government officials.

Vittone recommended that OSHA proceed through the regular standards-setting process under Section 6(b) of the Act.

Shell Chemical Statement

Richard J. Reynolds, manager of vinyl chloride, Shell Chemical Company, said his firm produces only the vinyl chloride monomer at two installations. A total staff of about 370 workers are involved on a regular basis with vinyl chloride monomer manufacture.

Periodic spot measurements have been made since manufacture began and all measurements were well below the OSHA 500 ppm ceiling and the 200 ppm ceiling set by the American Conference of Governmental Industrial Hygienists.

Shell began a medical surveillance program in 1973 of vinyl chloride workers and it has yet revealed no liver damage or cancer among the participants. In addition, Shell is continuing efforts to locate and curtail emissions throughout its process units and associated loading areas.

Shell supports a regular 6(b) standards-setting procedure for vinyl chloride exposure, Reynolds said.

Dow Chemical Company

Dr. V.K. Rowe, Dow Chemical Company, said OSHA should recognize the diversity of vinyl chloride manufacture processes when it establishes a standard. Safe work operations should be based upon establishment of safe levels, engineering controls, analytical monitoring, and appropriate corrective action, he said.

The four deaths at the Louisville plant may have resulted from extremely high exposures in past years, Rowe said.

Health Hazards

WORKER EDUCATION, RESEARCH NEEDED FOR SOLVENT USE, IHF SYMPOSIUM HEARS

PITTSBURGH — (By an OSHA staff correspondent) — The problems most often confronting safe use of industrial solvents are lack of worker education, research, medical records, monitoring, and controls, according to a February 13-14 Industrial Health Foundation symposium in Pittsburgh, Pa.

According to Dr. Robert A. Scala, senior research associate, Esso Research and Engineering Company, Linden, N.J., threshold limit values presently set for industrial solvents are not based on strong data and most medical records linking the solvents to adverse affects have been "anecdotal."

Scala noted a tendency toward newer concepts in setting TLV's such as consideration of nuisance, odor, and discomfort as well as toxicity.

Introducing preliminary results of a study conducted for the petroleum industry dealing with the toxicity of petroleum hydrocarbon solvents by Dr. C.P. Carpenter,