United States Steel Corporation

PLAINTIFF'S EXHIBIT USX-110

Interorganization Correspondence

Date: February 14, 1972

To: All Administrative Physicians
Plants, Mines, and General Offices
United States Steel Corporation

From: Merle Bundy, M.D.
Director-Industrial Medicine

Subject: Threshold Limit Value For Asbestos Dust Exposure
Federal Occupational Safety And Health Act (OSHA)

Attached is a memorandum from Mr. Kenneth M. Morse, Director-Environmental Health, concerning the revision downward of this standard under the OSHA-70.

It is recommended that chest x-rays of employees exposed to asbestos dust be done at the time of pre-employment examination and yearly thereafter. If exposure continues beyond one year, even though at or below the standard, x-rays should be continued on a yearly basis so long as the employee remains with U. S. Steel.

Because there is some early evidence that "smokers" in an asbestos exposure, admittedly considerably above the present standard, have shown a much, much greater risk (90-1) for the development of lung cancer than non-smokers, every effort should be made to encourage the smokers in any asbestos exposure to "kick the habit." The relationship of smoking in the development of asbestosis is not yet understood. A recent article from the Harvard School of Public Health and an Editorial in the December 2, 1971 issue of "The New England Journal of Medicine" are enclosed for additional information.

Merle Bundy MD

MB/rp

Attachments

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ACTION ON ASBESTOS

Asbestos workers are unintentional victims of industrial progress. They are at risk of pulmonary fibrosis, pleural calcification, mesotheliomas and lung cancer. Asbestos exposure is now widespread, involving not only air but also drinking water, wine and beer.[1] Fibers have been found in the lungs of people without industrial asbestos exposure. Whatever the exact nature of asbestos or ferruginous bodies may be, there is no doubt that electron microscopy of the lungs of urban dwellers has shown the presence of chrysotile asbestos.[2] Although there is no evidence of asbestos-linked disease in the general population at this time, the presence of asbestos in their lungs is disturbing. Asbestos is relatively resistant to destruction by most chemical and physical means and can float freely in the atmosphere for prolonged periods. Asbestos diseases have a long latent period, 20 years or more. We therefore believe that more sweeping decisions on the control of asbestos must be made now, on the basis of "reasonable probability" rather than after a delay for a precise definition of dose-response relations.

These thoughts are reinforced by the work of Murphy and associates in this issue of the *Journal* (p 1271). Their studies of pipe coverers involved in new ship construction include better than usual exposure data and indicate a high incidence of asbestosis (38 per cent after 20 years) at what have been previously regarded as "safe" dust concentrations. A second study of Murphy et al[3] reports two cases of pleural disease (one mesothelioma) in workers who sanded asbestos floor tiles. Since the degree of asbestos exposure was unknown, the authors simulated the working conditions and found concentrations of 1.3 fibers per milliliter of room air. This concentration is less than 1/5 of currently used threshold limit values. A fiber per milliliter of room air means that a worker breathing 15 liters per minute for eight hours inhales some 10^8 fibers every work day. Although only a fraction of the inhaled fibers remains in the lung, these figures suggest that an alarming number will still accumulate over a 10-year period.

A recent Committee report prepared by a National Academy of Sciences panel[4] has called for control of asbestos emissions at the source and for protection of those who are exposed in their occupations. The report also calls for further research on the biologic effects and the physical characteristics of asbestos fibers; such data are urgently needed "if a range of safe exposure is to be established with confidence." Although we endorse these recommendations, we want to underline the urgent need for technical controls based on existing knowledge. Epidemiologic monitoring, physical studies of asbestos and other fibers and analysis of their effects on cells and tissues are important and must be continued. But there is now a clear need for more decisive action on control measures and the Occupational Safety and Health Act of 1970 sets the stage for such action.

Application of the technics of industrial hygiene must be accelerated. The present threshold limit value for asbestos should be lowered far below some recent proposals. National administrative mechanisms to initiate and implement action are available — the recently established National Institute for Occupational Safety and Health and the National Advisory Committee on Occupational Safety and Health foremost among them. The Secretary of Labor, under the aforementioned Act, is charged with the setting of standards and has the right of entry into and inspection of places of employment. Thus, enforcement and regulatory mechanisms as well as advisory bodies have been established by law. Among the many problems that they face, asbestos should have high priority. Technologic developments are needed in many areas: sophisticated dust control, better and harmless asbestos substitutes; and improved monitoring of both the workers and their environment. Adequately devised tax policies could provide incentives for industry to clean the air and protect the workers. Such policies, by generating action in each plant where a risk exists, can rapidly and considerably amplify efforts on the national scale.

Bernard Gee, M.D.
Arend Bouhuys, M.D., Ph.D.

References

1 Cunningham HM, Pontefract R. Asbestos fibres in beverages and drinking water. Nature (Lond) 232:332-333, 1971
2 Langer AM, Selikoff IJ, Sanchis A. Chrysotile asbestos in the lungs of persons in New York City. Arch Environ Health 22:348-361, 1971
3 Murphy RL, Lemen RW, Al Bazzaz F, et al. Fiber concentration as a source of asbestos exposure. Am Rev Resp Dis 104:576-581, 1971
4 Asbestos: The need for and feasibility of air pollution controls. Panel on Asbestos, Committee on Biologic Effects of Atmospheric Pollutants. Washington DC: Division of Medical Sciences, National Research Council, 1971

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FOR YOUR INFORMATION

D. W. BROWN
DIRECTOR OF SAFETY
UNITED STATES STEEL CORPORATION

Title 29—Labor

CHAPTER XVII—OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Standard for Exposure to Asbestos

Pursuant to sections 6(b) and 8(c) of the Occupational Safety and Health Act of 1970 (84 Stat. 1593, 1599; 29 U.S.C. 655, 657), Secretary of Labor's Order No. 12–71 (36 FR 8754), and 29 CFR Part 1911, § 1910.1001(l)(1) of Part 1910 of Title 29, Code of Federal Regulations, is hereby amended in the manner set forth below, in order to extend the retention period for asbestos exposure monitoring records from three years to twenty years.

On December 7, 1971 (36 FR 23207), OSHA issued an emergency temporary standard on asbestos in response to a petition by the Industrial Union Department of the AFL–CIO, pursuant to section 6(c) of the Act (84 Stat. 1596, 29 U.S.C. 655). This emergency temporary standard was designed primarily to immediately reduce and control occupational exposure to asbestos dust concentrations, and did not contain recordkeeping procedures. However, on January 13, 1972 (37 FR 466), OSHA published a proposed comprehensive standard for asbestos exposure which did include recordkeeping provisions. Paragraph (h)(1) of the proposal (37 FR 468) provided that exposure monitoring records, and records of medical examinations, be maintained for a period of twenty years. After public hearings the Secretary promulgated a new, permanent OSHA standard for asbestos on June 7, 1972 (37 FR 11318), in accordance with section 6(b) of the Act (84 Stat. 1593, 29 U.S.C. 655). This new regulation, which appeared as 29 CFR 1910.93a prior to recodification, contained a three-year requirement for retaining exposure monitoring records, 29

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CFR 1910.93a(l)(1) (now .20 CFR 1910.1001(l)(1)).

On July 27, 1972, pursuant to section 6(f) of the Act, (84 Stat. 1597, 29 U.S.C. 655), a petition for judicial review of the asbestos standard was filed with the United States Court of Appeals for the District of Columbia. The principal petitioners, the Industrial Union Department, AFL–CIO, objected to several substantive portions of the standard, including those dealing with recordkeeping. The Court affirmed the Secretary's judgments and the standard's validity except for two provisions, one of which was the retention period for exposure monitoring records. "Industrial Union Department, AFL–CIO v. Hodgson," 499 F. 2d 467 (C.A.D.C. 1974). The Court directed the Secretary to re-examine the standard with respect to the three-year recordkeeping provision and to reconsider whether such time period adequately assured employee protection from asbestos-related diseases.

In discussing this issue, the Court noted that many of the problems facing the Secretary in developing an asbestos standard were directly attributable to the lack of information concerning asbestos-related diseases, and particularly to the lack of reliable data on past exposure levels. Noting the close functional relationship between medical records and exposure records, and the fact that the standard required that medical records be maintained for at least 30 years, the Court expressed surprise at the short three-year retention period for monitoring records. After reviewing the Secretary's obligation under the Act to require retention of records necessary for the development of information concerning the causes of disease and the importance of exposure data in establishing this causal relationship, the Court remanded the recordkeeping requirements to the Secretary "for such modification or clarification as may be necessary to ensure that the statutory objectives will be fulfilled" 499 F. 2d at 484.

Pursuant to the Court's direction, OSHA has completed its review, and has concluded that the opinion expressed by the Court is an accurate reflection of the record, and that the agency's initial judgment warrants correction.

OSHA believes that extension of the recordkeeping requirement for exposure monitoring from three years to twenty years as originally proposed would be in harmony with the twenty-year retention period now required for employee medical records, 29 CFR 1910.1001(l)(6)(i). As the court noted (499 F. 2d at 488), the two sets of records when read together would provide a more complete record of an employee's history of exposure, a factor vitally important with respect to asbestos-related diseases. The extended period for retention, with resultant data accumulation, will be critical to medical and scientific investigations studying such questions as dose-response relationships in diseases caused by occupational exposure to asbestos. This decision would also be responsive to the agency's declared concern that the past inadequacy of health and monitoring records have hindered research into the consequences of asbestos exposure at the workplace. 37 FR 11318, June 7, 1972.

The long latency periods associated with asbestos-related diseases, and the consequent need for a standard to take such latency periods into account, were recognized by both the OSHA Advisory Committee on Asbestos Dust (proceedings at pp. 103–105, February 17, 1972) and the NIOSH Criteria Document for a Recommended Standard on Asbestos (generally chapters I and II). In addition, testimony by two witnesses at the OSHA hearings also supported longer retention periods for exposure monitoring records (Tr. at 527, 538, March 17, 1972). A consensus of the evidence in the record indicates that exposure monitoring records should be held for at least 30 years in order to make such a requirement meaningful in view of what is generally recognized as the minimum latency period for many asbestos-related diseases. OSHA is of the view that the interests of worker health would be best served by requiring the retention of exposure monitoring records for a period which reflects an appreciation of this recognized latency factor.

Accordingly, pursuant to the Court's remand for further consideration of the retention period for monitoring records, we have concluded, based on the existing record and for the reasons stated above, that a 20-year retention period is supported by the evidence and necessary for the protection of employees. It is noted that in a new proposal on exposure to asbestos (40 FR 47652, October 9, 1975), which reflects the most recent scientific and medical developments in the field, a 40-year retention period (or the duration of employment plus twenty years) for both exposure measurement and medical records has been proposed.

For the reasons stated above, the exposure records provision of the asbestos standard will be corrected to require retention of exposure monitoring records for at least 20 years, effective March 19, 1976. OSHA believes that a delay in the effective date of this requirement is not warranted since this rule only requires that affected employers retain records which they have already compiled and therefore does not impose a new burden of action, and since the initial three-year retention period for such records has now lapsed and these records might be destroyed. Loss of such records would be irreparable. Continued access to such records by all concerned is essential in the public interest, and is an appropriate means of effectuating the goals of improved worker safety and health under the Act. Good cause is found, therefore, pursuant to section 4(d)(3) of the Administrative Procedure Act (5 U.S.C. 553(d)(3)), for making this rule effective.

Accordingly, pursuant to the direction of the United States Court of Appeals ("Industrial Union Department, AFL–CIO v. Hodgson, supra"), and the above referenced authority, paragraph (l)(1) of 29 CFR 1910.1001 is hereby amended to read as follows:

§ 1910.1001 Asbestos.

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(l) *Recordkeeping.*—(1) *Exposure records.* Every employer shall maintain records of any personal or environmental monitoring required by this section. Records shall be maintained for a period of at least 20 years and shall be made available upon request to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.

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(Secs. 6, 8, Pub. L. 91–596, 84 Stat. 1593, 1600 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754); 29 CFR Part 1911).

Signed at Washington, D.C. this 12th day of March 1976.

MORTON CORN,
Assistant Secretary of Labor.

[FR Doc.76–7781 Filed 3–18–76;8:45 am]

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Institute for Occupational Safety and Health, and to authorized representatives of either.

(2) *Employee access.* Every employee and former employee shall have reasonable access to any record required to be maintained by subparagraph (1) of this paragraph, which indicates the employee's own exposure to asbestos fibers.

(3) *Employee notification.* Any employee found to have been exposed at any time to airborne concentrations of asbestos fibers in excess of the limits prescribed in paragraph (b) of this section shall be notified in writing of the exposure as soon as practicable but not later than 5 days of the finding. The employee shall also be timely notified of the corrective action being taken.

(j) *Medical examinations*—(1) *General.* The employer shall provide or make available at his cost, medical examinations relative to exposure to asbestos required by this paragraph.

(2) *Preplacement.* The employer shall provide or make available to each of his employees, within 30 calendar days following his first employment in an occupation exposed to airborne concentrations of asbestos fibers, a comprehensive medical examination, which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second ($FEV_{1.0}$).

(3) *Annual examinations.* On or before January 31, 1973, and at least annually thereafter, every employer shall provide, or make available, comprehensive medical examinations to each of his employees engaged in occupations exposed to airborne concentrations of asbestos fibers. Such annual examination shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second ($FEV_{1.0}$).

(4) *Termination of employment.* The employer shall provide, or make available within 30 calendar days before or after the termination of employment of any employee engaged in an occupation exposed to airborne concentrations of asbestos fibers, a comprehensive medical examination which shall include, as a minimum, a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second ($FEV_{1.0}$).

(5) *Recent examinations.* No medical examination is required of any employee, if adequate records show that the employee has been examined in accordance with this paragraph within the past 1-year period.

(6) *Medical records*—(i) *Maintenance.* Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be retained by employers for at least 20 years.

(ii) *Access.* The contents of the records of the medical examinations required by this paragraph shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of NIOSH, to authorized physicians and medical consultants of either of them, and, upon the request of an employee or former employee, to his physician. Any physician who conducts a medical examination required by this paragraph shall furnish to the employer of the examined employee all the information specifically required by this paragraph, and any other medical information related to occupational exposure to asbestos fibers.

3. A new § 1910.19 is added to Subpart B of Part 1910, reading as follows:

§ 1910.19 *Asbestos dust.*

Section 1910.93a shall apply to the exposure of every employee to asbestos dust in every employment and place of employment covered by § 1910.12, § 1910.13, § 1910.14, § 1910.15, or § 1910.16, in lieu of any different standard on exposure to asbestos dust which would otherwise be applicable by virtue of any of those sections.

Effective date. Paragraph (b)(2) of § 1910.93a shall become effective July 1, 1976. All other provisions of §§ 1910.93a, 1910.93, and 1910.19 shall become effective July 7, 1972. The current emergency temporary standard remains in effect until July 7, 1972.

(Secs. 6, 8, 84 Stat. 1593, 1600; 29 U.S.C. 655, 657; 29 CFR 1910.4; Secretary of Labor's Order No. 12-71, 36 F.R. 8754)

Signed at Washington, D.C., this 2d day of June 1972.

G. C. OTTINGER,
Assistant Secretary of Labor.

[FR Doc.72-8674 Filed 6-6-72;8:48 am]

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