

¶ 10,830 OSHA INTERPRETS ASBESTOS MONITORING AND MEDICAL EXAM REQUIREMENTS FOR LOW EXPOSURES

Back reference: ¶ 7600.8.

On January 19, 1977, in response to an inquiry from Bell Laboratories, outgoing OSHA head Dr. Morton Corn interpreted the asbestos standard's employee monitoring and medical exam requirements for low levels of exposure. Bell Laboratories informed OSHA that asbestos levels inside its office buildings typically average 0.06 fibers per cubic centimeter of air, whereas levels in the ambient air in the vicinity of the buildings average 0.1 fibers per cc. The company noted that, if interpreted literally, the OSHA standard (§ 1910.1001) requires initiation of employee monitoring and medical surveillance when even a single fiber is found, and asked whether such monitoring and medical surveillance are necessary when asbestos exposure levels are this low. The text of Corn's reply reads as follows:

Dear Mr. Wilkening:

This is in response to your letter of July 9, 1976, inquiring into the applicability of the present Occupational Safety and Health Administration (OSHA) standard for asbestos (19 CFR 1910.1001) where airborne asbestos concentrations inside office buildings are consistently less than those found in the outside community air.

As you know, the Secretary's asbestos monitoring regulation at 29 CFR 1910.1001(f)(1) requires initial monitoring of "every place of employment where asbestos fibers are released." Such initial measurements of office building employee exposures to airborne asbestos are, we believe, required whenever there is any reason to believe that airborne asbestos is present inside the building regardless of whether the levels present are less than those generally found in the normal outside environment. Obviously, an employer's suspicion that airborne asbestos exists inside the buildings should be aroused whenever asbestos is worked or used anywhere within the building. Similarly, where asbestos has been applied to walls, ceilings, exposed structural steel, air ducts, plenums, return air spaces, boilers, pipes, etc., or where asbestos is being released into the atmosphere from someplace other than the employer's workplace such as an adjacent industrial operation, the employer should be alerted to the possibility that asbestos fibers are present inside its

building. Although, by its express terms as well as the developing case law, 29 CFR 1910.1001(i) would require medical examinations where employees are exposed to any concentration of asbestos fibers, it is current OSHA policy to require medical examinations only when employee exposures exceed 0.1 fibers greater than 5 microns in length per cubic centimeter (1/cc greater than 5 microns on an 8-hour time required average (TWA) basis. Our policy in this regard derives support from a recent recommendation from the National Institute for Occupational Safety and Health (NIOSH) that the permissible exposure limit for airborne asbestos be fixed at this level. This recommendation was made by NIOSH in its document titled, Re-examination and Update of Information on the Health Effects of Occupational Exposure to Asbestos (December, 1976).

Insofar as continuous monitoring is concerned, the standard (29 CFR 1910.1001(f)(1) and (3)) requires that after the initial determination, sampling "... shall be of such frequency and pattern as to represent with reasonable accuracy the levels of exposure of employees. In no case shall sampling be at intervals greater than 6 months for employees whose exposure to asbestos may reasonably be foreseen to exceed. (2 f/cc greater than 5 microns on an 3-hour TWA basis)." Where the initial measurements show asbestos concentrations to be far below this level then further

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sampling normally need not be performed until there is reasonable cause to believe that the airborne asbestos concentrations revealed by the initial measurements have changed. The initiation of such processes or the presence of such factors as those indicated in the second paragraph above should similarly cause an employer to question the current validity of initial determinations previously made.

In closing, let me point out that I was somewhat surprised by the asbestos concentrations found by you in the air outside your office buildings. As I am sure you are aware, the outside levels indicated in your letter are

on the order of 1 to 2 magnitudes higher than the environmental norm for most regions of the United States. Thus, Bell's self-initiated efforts to survey the environment both inside and outside of its office buildings are particularly significant as they suggest Bell's recognition of the serious hazards that have been associated with exposure to asbestos.

I hope you will find this letter responsive to the questions you have raised.

Sincerely,
Morton Corn
Assistant Secretary of Labor

§ 10,831 CRITERIA DOCUMENT FOR CHLORINE ISSUED BY NIOSH

Back reference: § 7600.

A NIOSH criteria document on occupational exposure to chlorine issued in March 1977 recommends lowering the present limit of 1 ppm as an eight-hour time-weighted average concentration to a ceiling concentration of 0.5 ppm as determined by a sampling time of 15 minutes. The recommended standard includes provisions for personal protective equipment, preplacement and annual medical examinations, labeling, engineering controls, monitoring and record retention. The standard would apply to chlorine processing, manufacture, use and handling.

Chlorine is defined in the document as liquid or gaseous molecular chlorine. At workplace temperatures and pressures, chlorine is a yellowish green gas with a distinctive, irritating odor. Chlorine is used in the treatment of pulp and paper; in the production of plastic, resins, solvents, textile and household bleaches, refrigerants, pharmaceuticals and cosmetics; as an intermediate in the production of automotive fluids; and in metal extraction. NIOSH estimates that in 1973 15,000 workers were potentially exposed to chlorine.

The basis for the recommended environmental limit of 0.5 ppm and

an action level of one-half of the recommended limit is the prevention of irritation of the skin, eyes, and respiratory tract. Exposure to chlorine at high concentrations may result in pulmonary edema, bronchitis and skin burns, among other effects.

Engineering Controls, Storage

The standard recommends the use of engineering controls to maintain environmental limits, and a completely enclosed process is the preferred method of control. Local exhaust ventilation may also be used alone or with process enclosure. Ventilation systems must be designed to maintain airborne chlorine concentrations at recommended limits to prevent accumulation of chlorine in the workroom, and to remove chlorine from the breathing zones of workers.

Chlorine would be stored in adequately ventilated unoccupied rooms isolated from work areas. The room would be equipped with an inspection window to permit viewing without entry. Chlorine could also be stored outdoors but shielded from the direct rays of the sun unless the container is properly insulated.

Employment Safety and Health Guide

§ 10,831

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Exposure Threshold Set for Asbestos Medical Exam Requirement

Employee medical exams are required when employees are exposed to more than 0.1 fibers greater than five microns in length per cubic centimeter of air. Dr. Morton Corn informed Bell Laboratories January 19 as one of his last acts before leaving office. Bell requested an interpretation of the applicability of the asbestos standard to its office building, in which asbestos levels typically average 0.06 fibers per cubic centimeter of air, while levels in the ambient air in the vicinity of the buildings average 0.1 fibers per cc of air. The company noted that, if interpreted literally, the OSHA standard (§ 1910.1001) requires initiation of employee monitoring and medical surveillance when even a single fiber is found.

Corn's reply noted that asbestos may be expected in any work environment in which asbestos has been applied to walls, ceilings, exposed structural steel, air ducts, return air spaces, boilers or pipes, or when the workplace is adjacent to an asbestos-releasing industrial operation. He said that the standard requires initial monitoring and medical surveillance any time there is a reason to believe that asbestos may be present in the workplace, but continued monitoring after the initial determinations is required only if employee exposures exceed the permissible limit of two fibers greater than five microns in length per cubic centimeter of air as a time-weighted average.

The letter is at ¶ 10,830.

Suit Filed to Set Aside Ground Fault Protection Standards

The National Constructors Association filed a petition February 18 with the U. S. Court of Appeals for the District of Columbia Circuit charging that the ground fault protection standards adopted by OSHA on December 21 were not promulgated in accordance with the law, were not justified by the evidence of the record, and exceeded the Secretary's authority under the Act. The Association asked the Appeals Court to review the standard and set it aside. The petition is at ¶ 10,829. The standard, effective February 22, requires use of ground fault circuit interrupters on temporary wiring, or establishment of an equipment grounding conductor program.

Lead Researcher Charges OSHA Misused His Study

At the hearing on the proposed lead standard which began March 15, Great Britain's Dr. Michael D. Williams charged that his research was "used wrongly" by OSHA to justify its position that blood lead levels are related to air lead concentrations. Williams, who was retained as a consultant by the Lead Industries Association, Inc., said that recent studies, including his own, have shown that there is no clear correlation between air lead and blood lead levels. It is illogical to set an air lead standard, he said, and suggested that the standard be based on blood lead levels. He also noted that his research indicates that there are no material adverse health effects if blood lead levels do not exceed 80 ug/100gms, and LIA argued that this level should be set as the permissible limit for a solely biological standard.

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The American Iron and Steel Institute joined LIA in recommending that the standard be based on biological, rather than environmental, levels and in contending that a permissible blood lead level of 80 ug/100gms was reasonable and would protect employees. It also pointed out that supplied-air helmets can reduce employee exposure far more than engineering controls—to less than 10 ug/m³ under even the most extreme conditions. Helmets have other advantages over engineering controls, according to LIA: they are cheaper, reduce noise exposures, increase comfort by cooling air, and give additional safety protection. AISI added that OSHA objections to respirators do not apply to supplied-air helmets; difficulties with proper fit and respiratory function are eliminated because the helmets are positive pressure devices which completely enclose the worker's head and neck.

The Battery Council International testified that the proposed standard's prohibition against recirculating air back into the workplace should be eliminated, because it is based on a no longer valid assumption that the air cannot be sufficiently cleaned. The technology now exists for a recirculation system that can remove virtually all the lead from air, while recovering nearly all the heat and energy otherwise wasted in moving air, BCI said.

The President's Council on Wage and Price Stability, created in 1974, criticized OSHA for not considering less costly alternatives such as rigid enforcement of the existing permissible limit of 200 ug/m³. The Council also urged OSHA not to require engineering controls.

HRG, Women's Groups, and UAW Call for Stricter Standard

Dr. Sidney Wolfe, Director of Public Citizens' Health Research Group (a Ralph Nader organization), testified that HRG data indicate that blood lead levels as low as 40-60 ug/100gms produced anemia in nearly 30 percent of people exposed. He also cited a study of lead battery workers in Rumania which showed that men with blood lead levels of 41 ug/100gms had decreased libido and significantly decreased ability to produce healthy sperm. Other studies cited by Wolfe showed that the maximum safe blood lead level for a fetus is 30-40 ug/100gms. He recommended that OSHA set a permissible blood lead level of 30 ug/100gms and that OSHA require employers to provide medical exams for the families of lead-exposed workers because of studies showing lead poisoning in these families.

Companies which require women to prove that they are sterile before they can be hired for lead-exposed jobs, or which transfer fertile women to lower paying, nonexposed jobs, were criticized by Camille Kozlowski of the National Organization for Women and Catherine East of the National Commission on the Observance of International Women's Year. They argued that if OSHA does not set a blood lead limit low enough to protect pregnant or potentially pregnant women without guaranteeing their right to work at lead-exposed jobs, employers will be given a justification for discriminatory practices.

The United Auto Workers also recommended that the standard provide for equal protection for men and women and stated that OSHA should promulgate a standard which would require that air lead exposure be limited to the point where lead absorption causes no significant increase in blood lead above pre-employment level, or 40 ug/100gms, whichever is less.

The comments are summarized at ¶ 10,836.

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4/19/77
Bob,

This is a
key interpretation.
Probably should be
the subject of a
newsletter.
What think you?

not now - ^{long} superseded by OSHA
RC case 147C 3/24