

THE 29—LABOR
CHAPTER XVII—OCCUPATIONAL SAFETY
AND HEALTH ADMINISTRATION, DE-
PARTMENT OF LABOR
PART 1910—OCCUPATIONAL SAFETY
AND HEALTH STANDARDS

Standards for Exposure to Asbestos

Pursuant to sections 8(b) and 8(c) of the Occupational Safety and Health Act of 1970 (42 Stat. 1591, 29 U.S.C. 653, 657) Secretary of Labor's Order No. 12-71 (36 FR 6734) and 29 CFR Part 1910.1001(b)(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 22071), 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 8(b) of the Act (42 Stat. 1596, 29 U.S.C. 653). 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 12, 1972 (37 FR 466) OSHA published a proposed comprehensive standard for asbestos exposure which did include recordkeeping provisions. Paragraph (h)(1) of the proposed Part 1910.1001 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 8(b) of the Act (42 Stat. 1592, 29 U.S.C. 653), this new regulation, which appeared at 29 CFR 1910.1001, prior to modification, contained a three-year requirement for retaining exposure monitoring records. 29

CFR 1910.1001(d)(1) (now 29 CFR 1910.1001(d)(1)).

On July 27, 1972, pursuant to section 8(c) of the Act (42 Stat. 1597, 29 U.S.C. 653), 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 of the AFL-CIO, objected to several substantive portions of the standard, including those dealing with recordkeeping. The Court affirmed the Secretary's judgment 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," (49 F. 2d 461 (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 rec-

ords and exposure records, and the fact that the standard required that medical records be maintained for at least 20 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 objective will be fulfilled." 49 F. 2d at 466.

Pursuant to the Court's direction, OSHA has committed to 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 is originally proposed would be in harmony with the twenty-year retention period now required for employee medical records. 29 CFR 1910.1001(d)(1). As the court noted, 49 F. 2d at 463, "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 including such questions as dose-response relationships in diseases caused by occupational exposure to asbestos. The 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. 102-109, 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 327, 328, March 17, 1972). A consensus of the evidence in the record indicates that exposure monitoring records should be held for at least 20 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 approximation of this recognized latency factor.

Accordingly, pursuant to the Court's demand 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, 36 FR 4552, October 9, 1971, 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 had 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 7, 1975. 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(b) of the Administrative Procedure Act, 5 U.S.C. 552 (b)(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

(d)(1) of 29 CFR 1910.1001 is hereby amended to read as follows:

§ 1910.1001 Asbestos.

(i) *Recordkeeping.*—(1) *Exposure records.* Every employer who maintains 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.

(Item 6 & Pub. L. 91-596 at Stat. 1593, 1595 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 12-71 (36 FR 6734), 29 CFR Part 1910).

Signed at Washington, D.C. this 12th day of March 1975.

Morton Cohen,
Assistant Secretary of Labor.

(FR 29-10-770) Filed 3-18-75 at WDC

quired during the shift to avoid overloading the filter.

(2) Exposures to asbestos dust with high levels of contamination.

a. Several samples may be required during the shift to avoid overloading the filter.

b. Filters should be changed only after a minimum of 1 hour of sampling time for exposures expected to be close to 0.1 fibers/cc. Seven or eight 1-hour samples can be collected during the day.

d. Examples of types of violations.

(1) Where an employer does not provide the required medical examinations, and an employee is exposed to 0.1 or more fibers/cc, it would be considered a serious violation of 29 CFR 1910.1001(g)(2) and (3).

(2) For definitions and guidance on "repeated," "willful," or a "failure to correct" violation, see the PDN Chapter VIII.

5. Effective Date

This directive is effective immediately and will remain in effect until further notice.

(3) Magnesium arsenate

(4) Sodium arsenite

(5) Zinc arsenate

(6) Zinc arsenite

(7) Zinc chromate

1. Manufacturers of desiccants.

Example: On insaric acid.

g. Manufacturers of wood preservatives.

Some examples of these products are as follows:

(1) Arsenic acid.

(2) Chlorinated copper arsenate.

(3) Mixture of chlorinated arsenate, fluoride and phenolic salts in aqueous solution.

(4) Zinc chromate arsenate.

(5) Copperized zinc chromate arsenate.

(6) Arsenic acid.

h. Manufacturers of feed additives.

Some examples of these products are as follows:

(1) Arsenic acid.

(2) 3-Nitro-4-hydroxyphenylarsonic acid.

(3) 4-Nitrophenylarsonic acid.

(4) 4-Ureido-1-phenylarsonic acid.

i. Manufacturers of pharmaceuticals for use in veterinary medicine.

Some examples of these products are as follows:

(1) Acetarsamide.

(2) Carbamone.

(3) Dichlorophenarsine.

(4) Lead arsenate.

(5) Meclarsol.

(6) Neoparsenamine.

(7) Thiocetarsamide: Caparsolates.

j. Manufacturers of glass that use arsenic trioxide as a refining agent and a decolorizer.

k. Manufacturers of alloys of nonferrous metals and arsenic.

Some examples of products manufactured from these alloys are as follows:

(1) Lead shot.

(2) Cable sheathing (lead and arsenic).

(3) Battery grids (lead and arsenic).

(4) Battery electrodes (lead and arsenic).

(5) Speculum metal.

(6) Boiler tubes (Copper and arsenic).

(7) Arsenic bronze.

(8) Special solders such as used on body joints and seams in the automobile industry.

(9) Arsenic brass.

(10) Amical Babbitts.

l. Users of vehicles that contain arsenic as a component in the alloy.

Example: Automobile and truck body manufacturers.

m. Manufacturers and/or users of arsenic-based florist's reagents.

n. Miscellaneous.

Arsenic and/or arsenic-containing, inorganic compounds are used in each of the following types of establishments. However, every employer does not necessarily use them.

(1) Leather tanneries

(2) Manufacturers of ceramics and ceramic or vitreous enamel.

(3) Manufacturers of aniline colors.

(4) Manufacturers of pyrotechnics

(5) Manufacturers of semiconductors

OSHA PROGRAM DIRECTIVE #300-16

October 11, 1978

TO REGIONAL ADMINISTRATORS, OSHA

Subject: 29 CFR 1910.1001(x2), (3) or (4); Minimum Airborne Fiber Concentration for Initiating and Continuing Asbestos Medical Examinations.

1. Purpose

The purpose of this directive is to provide uniform inspection and compliance procedures for the medical examination requirement in the asbestos standard, 29 CFR 1910.1001(x2), (3) or (4).

2. Documentation Affected

This directive supplements and provides reference for the OSHA Industrial Hygiene Field Operations Manual (IHFO) and the OSHA Field Operations Manual (FOM).

3. Background

In 29 CFR 1910.1001(x2), (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers..." has been the subject of considerable discussion and debate as to the meaning or interpretation of "airborne concentrations."

4. Action

a. Definition.

In 29 CFR 1910.1001(x2), (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers..." is administratively interpreted to mean exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter of air, as determined by the sampling method prescribed in section 4.2 of this directive. The phrase "fibers longer than 5 micrometers per cubic centimeter of air" shall hereafter be abbreviated as "fibers/cc."

b. Scope and applicability.

Medical examinations as per 29 CFR 1910.1001(x2), (3) or (4) will be required for any 7- to 8-hour time-weighted average concentration of 0.1 fibers/cc, or for a greater concentration.

c. Sampling information.

(1) Sampling procedures will follow Chapter X of the IHFO, with the additional guidance of 4.2(2) and (3) of this directive.

(2) Exposure to asbestos dust with low levels of contamination (e.g., mixed with other minerals).

(3) For exposures to dust that is mostly asbestos and is expected to be below the permissible exposure limit, the same filter should be used for the entire shift, but no longer than 8 hours.

(4) For exposures expected to be at or above the permissible exposure limit, several samples may be re-

rule is far too restrictive and invalidates alternative dosimeter types which would be equivalently effective," de Bernardo said. Regarding testing booths, the Chamber attorney said that "essentially laboratory conditions" would be required to meet the low frequency noise specifications for the booths, which he called an "impractical and unworkable requirement."

- There is confusion in the standard of the terms "noise" and "dose" which causes significant ambiguity.

- Training program requirements are excessive and present the potential for harassment of employers.

- Recordkeeping requirements are far too excessive and costly, particularly for small and medium-sized businesses.

- The calibration requirements for dosimeters and audiometers are excessive and require more testing than necessary to ensure accuracy.

- Projections of the number of workers covered by the amendment, the overall cost of compliance, and the cost per worker for compliance are badly underestimated.

- The requirements that only audiologists, qualified physicians, and otolaryngologists evaluate audiograms and perform certain duties is excessively costly and an inefficient use of limited professional resources since trained technicians and qualified nurses could adequately perform such responsibilities.

- The agency miscalculated the effect of impulse noise on measurements.

The Chamber has sought to stay the rule since it was issued on Jan. 16. *Current Report*, Jan. 22, p. 1333. Last month, the Chamber proposed to Reagan's task force on regulatory reform that the eight-hour time-weighted noise exposure to which workers must be exposed be included in industrial hearing conservation programs under the new rule be raised from 85 dB to 90 dB. *Current Report*, Feb. 19, p. 126a.

ORC Petition

A similar petition requesting suspension of the effective date of the Occupational Safety and Health Administration's new hearing conservation amendment, full review of the record compiled on the amendment, and a reopening of the record also was submitted March 2 to Secretary of Labor Raymond J. Donovan by the Organization Resources Counselors, Inc.

ORC criticized the amendment for relying on specification rather than performance criteria and for being too technically complex for most employers. "In our view, OSHA can solve the broad problem and many of the specific problems (contained in the amendment) only if it substitutes a performance standard for the excessively specification-oriented amendment," the organization stated.

ORC shares similar concerns with the Chamber of Commerce about a number of issues, including specifications for test booths, recordkeeping requirements, specifications required for dosimeters, whether dosimeters are reliable under the requirements of this program, definitions of significant threshold shift and revised baseline in the program, enforcement and need for the 16-hour quiet period, requirements for audiometer calibration, training requirements, effect of impulse noise on measurements, and limitation of audiogram review to certain physicians.

In addition, ORC requested that several issues, such as the cost effectiveness of the amendment, the number of workers covered and the resulting overall cost of the amendment, the provision for employee monitoring of the program, possible confusion between the requirements of the amendment and those of the old standard, the handling of computer programs, and the requirement that noise levels as low as 80

dB be included in the time-weighted average receive additional consideration and review before the amendment becomes effective.

Asbestos

OSHA INSTRUCTION GIVES PROCEDURES FOR DOCUMENTING PAST EMPLOYEE EXPOSURE

Procedures for documenting past employee exposure to airborne asbestos fibers when concentrations can not be measured by taking of air samples on the day of the inspection or thereafter were detailed in an Occupational Safety and Health Administration instruction issued Feb. 18.

The instruction, CPL 2-2.21A, sets guidelines for determining whether asbestos had been used or handled regularly at the workplace — or if it had been used or handled on an irregular basis, whether employees were exposed to significant amounts of asbestos-containing dust — for the purposes of the medical examination requirements of the asbestos standard (Reference File 11-11361).

Compliance officers are instructed to obtain monitoring results from the employer or contractor, or from other sources. Information necessary to document asbestos use or handling is to be obtained through employee, employer representative, or union interviews, and through written employer information if it exists.

The instruction cancels a similar document issued in October 1978 but, except for the addition of the procedures for documenting past exposure, leaves it essentially unchanged. *Current Report*, Nov. 2, 1978. Reference File 11-11361.

Text of the instruction follows:

Text of OSHA Instruction CPL 2-2.21A

Subject: 29 CFR 1910.1001(j)(2)-(3) or (4). Minimum Airborne Fiber Concentration for Initiating and Continuing Asbestos Medical Examinations.

A. Purpose: This instruction provides uniform inspection and compliance procedures for the medical examination requirement in the asbestos standard.

B. Scope: This instruction applies OSHA-wide.

C. Cancellation: OSHA Instruction CPL 2-2.21, October 11, 1978, is canceled.

D. Action: OSHA Regional Administrator and Area Directors shall assure that enforcement of 29 CFR 1910.1001(j)(2), (3) or (4) is consistent with the guidelines in G of this instruction.

E. Federal Program Change: This instruction describes a Federal program change which affects State programs. Each Regional Administrator shall:

1. Ensure that this change is forwarded to each State designee.

2. Explain the technical content of the change to the State designee as requested.

3. Ensure that State designees are asked to acknowledge receipt of this Federal program change in writing, within 30 days of notification, to the Regional Administrator. This acknowledgement should include a description either of the State's plan to implement the change or the reasons why the change should not apply to that State.

4. Review policies, instructions and guidelines issued by the State to determine that this change has been communicated to State program personnel. Routine monitoring activities (accompanied inspections and case file reviews) shall also be used to determine if this change has been implemented in actual performance.

F. Background: OSHA has determined that generally citations should, as a matter of policy, be issued for

violations of 29 CFR 1910.1001(j)(2), (3), or (4) only when employees are exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter of air, as determined by the sampling method prescribed in section G.2 of this instruction. The phrase "fibers longer than 5 micrometers per cubic centimeter of air" shall hereafter be abbreviated as "fibers/cc." However, for situations in which sampling of exposure is infeasible, citations may be issued as provided in G.3 of this instruction.

G. Enforcement Guidelines

1. Medical examinations as per 29 CFR 1910.1001(j)(2), (3) or (4) will be required for any 7- to 8-hour time-weighted average concentration of 0.1 fibers/cc. or for a greater concentration.

2. Sampling procedures will follow Chapter X of the IHFGM with the additional guidelines of G.3 and 4 of this instruction.

3. Sampling for Exposures to Asbestos Dust with Low Levels of Contamination (e.g., Mixed with Other Minerals)

a. For exposure to dust that is mostly asbestos and is expected to be below the permissible exposure limit, the same filter should be used for the entire shift, but no longer than 8 hours.

b. For exposure expected to be at or above the permissible exposure limit, several samples may be required during the shift to avoid overloading the filters.

4. Sampling for Exposure to Asbestos Dust with High Levels of Contamination

a. Several samples of exposure may be required during the shift to avoid overloading the filter.

b. Filters should be changed only after a minimum of 1 hour of sampling time for exposures expected to be close to 0.1 fibers/cc. Seven or eight 1-hour samples can be collected during the day.

5. First Exposures: When employees have been exposed to asbestos but air samples cannot be taken on the day of the inspection or thereafter, citations for serious violation of 29 CFR 1910.1001(j)(2), (3) or (4) should be issued according to the following procedures:

a. Determine that employees were exposed to airborne concentrations of asbestos and that the use or handling of asbestos was performed on a regular basis, or that the use or handling of asbestos was performed on an irregular basis, but employees were exposed to significant amounts of dust containing asbestos.

NOTE: Compliance officers shall obtain monitoring results from the employer (contractor) or other source (e.g., insurance company; commodity or plant for whom contracting work is being done; building owner/building management; other Federal, State or local agency), and shall indicate exposure levels above 0.1 fibers/cc of asbestos.

b. Document, by employee, employee representative, and union interviewers, that this work was performed routinely, on a repeated basis; or that the use or handling of asbestos was performed on an irregular basis, but employees were exposed to significant amounts of dust containing asbestos. In addition, obtain documentation from written employer information on these routine operations, if it exists.

c. The violative conditions must have occurred at least within the previous 6 months to meet the requirements of Section 101 of the Occupational Safety and Health Act.

6. Types of Violations

a. A "serious" violation of 29 CFR 1910.1001(j)(2), (3) or (4) would exist where an employer does not provide the required medical examinations, and an employee is exposed to 0.1 or more fibers/cc.

b. For definitions and guidance on "repeated" or a "failure to correct" violation see the FGM Chapter VIII.

Litigation

COURT RULES GRAIN DUST ACCUMULATION VIOLATES OSHA HOUSEKEEPING STANDARD

An employer that has been cited twice for violation of the Occupational Safety and Health Administration's housekeeping standard, for failure to prevent accumulations of grain dust in its grain elevator, is in repeated, serious violation of that housekeeping standard, the U.S. Court of Appeals for the Fifth Circuit, Unit A, ruled March 3.

This decision in *Bunge Corporation v. Secretary of Labor and USA/IRCA* (No. 79-1904) affirmed a ruling of the Occupational Safety and Health Review Commission (OSHRC 10281).

The case arose out of the inspection of the employer's Desurehan, La., grain elevator. During that inspection, the OSHA compliance officer found 42 locations where dust and grain had accumulated. The citation charged that this condition was in violation of 29 CFR 1910.22(a)(1) and that it created a fire hazard. This citation was the third such citation issued to the employer for violation of the same housekeeping standard. The first and third citations involved dust accumulations and the second involved material and ropes left in walking areas.

After a hearing on the merits of the case, an OSHRC judge found the employer to be in repeated, serious violation of the housekeeping standard and assessed a \$10,000 penalty. This appeal followed.

The employer did not dispute the existence of the dust accumulations at the grain elevator but, instead, argued that the housekeeping standard had been impermissibly expanded to include fire and explosion hazards. According to the employer, grain dust fire and explosion hazards can only be addressed by promulgating a specific rule covering those hazards. The appellate court rejected that argument, stating, "While a specific rulemaking may be preferable, OSHA is by no means obligated to countenance dangerous conditions pending the promulgation of a regulation that specifically addresses one of the hazards that the condition generates."

This opinion, which was written by Circuit Judge Sam O. Johnson, who was joined by Circuit Judges Irving L. Goldberg and Henry Politz, will appear in a future Decisions issue.

State Plans

MONETARY PENALTIES AGAINST WORKERS SUBJECT OF OSHA INSTRUCTION TO FIELD

States are not absolutely prohibited from leveling economic penalties against workers who fail to comply with job safety and health standards, but any state plan considering the inclusion of such sanctions in its state plan should evaluate the action carefully to determine whether it "weakens the effectiveness of the overall enforcement program," according to an Occupational Safety and Health Administration field directive.

The document, OSHA Instruction STP 2-1 SA, dated Feb. 26, also said that a state which includes such penalties in its plans "must show how these sanctions would not reduce the overall effectiveness of the state's enforcement program below that of the federal enforcement program."

which then successfully obtained review of this decision by the Review Commission.

The employer based its arguments on the infeasibility of the standard both as applied to its industry, construction, and its worksite. Research-Cortrell contended initially that a statement contained within a proposed revision to the asbestos standard, including its monitoring and medical examination provisions, constituted an admission of the infeasibility of the standard as applied to the construction industry.

This statement, published in the *Federal Register* on October 9, 1975, indicated that the revised standard would exclude the construction industry because "the uniqueness of the construction industry itself, viz. the multiplicity of non-fixed workplaces, and the utilization of highly transient workforces, presents a case for separate treatment, and for requiring different administrative and engineering controls, which may be more appropriate and feasible for this industry."

No Determinations Made

The commission, rejecting the employer's argument, indicated that the statement published by the secretary was intended to apply only to the proposed revision of the standard and not to the existing standard, which had not been formally revised. Furthermore, the commission noted the secretary in his statement was simply highlighting possible problem areas, as opposed to making determinations or findings on the feasibility of the standard.

The employer contended also that compliance with the monitoring and medical examination provisions would either serve no useful purpose, and thus be an expensive formality, or impose a substantial economic burden with negligible benefit to employees. In support of this argument, Research-Cortrell claimed that low levels of asbestos at the worksite as well as open, ventilated conditions precluded the need for medical examinations. It added that it should have been able to rely on results from monitoring which it performed at other sites constructed in the same manner as the one cited.

The commission refused to accept the employer's defense on the ground that it addressed economic feasibility which was not specifically encompassed by the terms of the standard. The agency held that it could properly consider a defense of impossibility of compliance in this case, but that the employer had failed to assert this defense.

Serious Concern

In a concurring opinion, Acting Chairman Frank Barnase did not join with the majority in reasoning that economic infeasibility could not be asserted as a defense in this case. The recognition of this defense in enforcement proceedings is necessary in order to ensure that the burdens placed on complying employers are "reasonable," according to Barnase.

Furthermore, he noted that the consideration of this defense by the commission is appropriate in view of the agency's mandate to protect employees only to the extent feasible. As support for the position that economic feasibility may be considered in enforcement proceedings even though a standard does not refer to feasibility, he cited the Third Circuit's opinion in *Atlantic and Gulf Stevedores, Inc. v. OSHA* (4 OSHC 1061) and that of the Sixth Circuit in *RMI Co. v. Sec'y of Labor & OSHA* (7 OSHC 1119).

After reviewing the evidence, however, Barnase indicated that the employer had failed to meet its burden of proving the defense in that the costs of compliance had not been shown.

This ruling will appear in a future Decisions issue.

Review Commission

SILVER-INDUCED FACIAL DISFIGUREMENT IS SERIOUS VIOLATION OSHA/RULES

The permanent disfigurement of employees, compounded as a result of occupational overexposure to silver, is a serious violation of the Occupational Safety and Health Act. The Occupational Safety and Health Review Commission ruled March 31.

This decision in *GAF Corporation, No. 10,310*, overturned an administrative law judge's decision to the extent that he found only an other-than-serious violation of the Act.

The case arose out of an inspection of the Gens, Park, N.Y. photo-chemical manufacturing facility, where the employer was engaged in the production of silver salts and silver oxide crystals. Air samples taken during that inspection proved that employees were exposed to airborne concentrations of silver in excess of that permitted by Occupational Safety and Health Administration standards.

At the trial, the secretary introduced medical evidence that was obtained during clinical examinations of 30 employees who were exposed to silver at the employer's facility. Of the 30 employees, six were diagnosed as having generalized argyria, a permanent and irreversible bluish-black discoloration of the skin, mucous membranes and eyes. The bluish-black skin discoloration was shown to be more marked in the light-exposed areas of the face, neck, arms and hands. In two other workers, discoloration of the skin was noted only in areas of the face and neck. Twenty of the workers were diagnosed as having argyrosis, a bluish-black discoloration of the conjunctiva of the eyes.

The trial judge considered the medical evidence and concluded that the effects of exposure to silver are "essentially cosmetic in nature." Therefore, the judge held that although the Secretary sustained his burden of proving employee overexposure to silver, the Secretary failed to prove that such violation was likely to cause "serious injury or death." The judge then affirmed the 29 CFR 1910.1000-2 violation as other-than-serious.

Secretary's Argument

On review, the secretary argued that "severe, protracted and irreversible skin discoloration" is a serious hazard within the meaning of the Act. In addition, the secretary argued that argyria is a total physical disruption of the skin's normal state and the psychological and social disfunctions that may result from such a permanent affliction are themselves sufficient to find a serious violation.

The employer argued that the secretary's contention did not fit within the definition of "serious physical harm," as that term is defined in the Field Operations Manual for OSHA compliance officers. According to that definition, the secretary has to prove that exposure to silver will render any portion of the body "functionally useless, substantially reduced in efficiency, or that it will shorten life."

The Review Commission noted that the trial record before it failed to establish any systemic implications to silver exposure and that the secretary's medical expert testified that "no marked influence on health was demonstrated" by his study. However, the commission rejected "the notion that a worker's substantial sacrifice of his or her appearance is anything less than serious."

According to the commission, "if the permanent irreversible staining of [employees'] skin caused by the deposition of silver and the increase in melanin production results in an alteration of the skin's pigmentation sufficient to require a finding of a serious violation."

The maximum radiofrequency emissions were 1.4 milliwatts per square centimeter E field and 1.5 milliwatts per square centimeter H field with an occupational standard of 10 milliwatts per square centimeter 100 units measured.

Lab Tests Reported

William A. Herman of the division of electronic products, Bureau of Radiological Health, Food and Drug Administration, reported on laboratory tests measuring X-ray radiofrequency, ultrasound, visible and infrared emissions from video display units with complete misadjustment of all controls to produce the worst possible conditions. These tests showed emission values within existing state, federal, and international guidelines. Herman said he could not see promulgating standards for video display unit radiation emission in the foreseeable future, adding that "we try to limit standards to things that need standards."

Myron L. Weibarsht, of the Drexel University Eye Center, completed the attack on the theory of video display unit radiation emissions. He said that in conducting measurements, he found background radiation levels often were greater than the radiation from the video display unit itself. He added that a fluorescent light emitted more ultraviolet radiation than a video display unit.

The researchers did not dismiss other potential health hazards from video display units as completely as radiation hazards. Most agreed, however, that these hazards were acute rather than chronic in nature.

Edward J. Rinalducci of Georgia Institute of Technology outlined visual problems such as fatigue, glare, color selectiveness, and the effects of adaptation associated with video display unit use.

Marvin J. Dainoff, of the Motivation and Stress Research Section of NIOSH, reported on experimental and field investigations relating visual fatigue and other visual changes to video display unit work. He suggested that poor contrast, glare, and insufficient work-rest breaks may contribute to worker complaints, but he concluded that causal linkages "still require substantiation."

Other reported complaints included postural discomfort and muscular disorders. Robert Arndt, of the University of Wisconsin, attributed these problems to awkward or improper postures, static loading of postural muscles for long periods, and repetitive motions leading to muscle fatigue and disorders involving tendons, muscles, joints, and nerves.

Researchers speculated on several causes for these problems. Most agreed that the workplace was partially to blame for health complaints. Michael J. Smith, chief of the Motivation and Stress Research Section of NIOSH, said there are good video display units on the market, and sound ergonomic principles for their use, that simply are not put into effect. "We can't always go back and try to beat up on the manufacturers," he added.

Smith and others agreed, however, that job content may share the blame for causing worker health complaints. "There are a hell of a lot of complaints out there that we're not hearing" from typists, microfilm viewers, and other clerical workers, Smith said. He blamed the repetitive nature of the work and the influence of the total computer system and its requirements for high levels of job stress and certain types of health complaints.

Smith announced that NIOSH plans to ask the National Academy of Sciences to review requiring vision examinations for all jobs requiring close acuity work.

NIOSH Recommendations

Smith also outlined general recommendations that NIOSH gave to the San Francisco Newspaper Agency, based on a

health hazard evaluation conducted there. The recommendations will be published in two months. Smith estimated. They include:

- Making workplaces as flexible as possible with adjustable chairs, keyboard height, screen height, screen brightness, and contrast.
- Setting the distance between the video display unit and the operator between 450 and 500 millimeters (18 to 20 inches) of the accommodation range.
- Setting the viewing angle in the 10 to 20 percent range with the top of the screen no higher than operator eye level and the bottom of the screen no lower than 40 degrees below eye level.
- Setting the keyboard height between 740 and 750 millimeters at home row.
- Making keyboards detachable if possible.
- Setting the illumination level between 500 and 700 lux.
- Controlling glare.
- Planning work-rest regimens with a 15-minute break after two hours of continuous video display terminal work for operators under moderate visual demands, and a 15-minute break after one hour of continuous work for operators with high visual demands or repetitive work tasks.
- Performing comprehensive preplacement visual examinations, with viewing requirements of the operator's job in mind.

Smith concluded that job content factors and video display unit use contribute to the problems observed in video display unit operators "in an interactive way."

Review Commission

OSHAHC REJECTS ECONOMIC INFEASIBILITY AS DEFENSE IN ASBESTOS VIOLATION CASE

An employer may not defend against citations for violations of asbestos monitoring and medical examination standards on the grounds that compliance is economically burdensome, the Occupational Safety and Health Review Commission ruled March 31.

This decision in *Research-Cottrell Inc. v. Moman Contracting Tower Division* (No. 11754), affirmed an administrative law judge's decision finding that the employer violated the standards by failing to monitor a worksite and provide medical examinations for employees exposed to airborne concentrations of asbestos fibers.

This case arose after an inspection of the employer's worksite in Russellville, Ark., where the firm was engaged in constructing cooling towers for a nuclear power plant. The towers consisted of concrete columns which were lined with asbestos sheets. As part of their duties, employees drilled and cut the sheets prior to installing them in the columns.

After monitoring the employer's worksite for presence of airborne asbestos fibers, an industrial hygienist for the secretary of labor found that employee exposure to asbestos was 0.32 to 1.37 asbestos fibers measuring greater than five microns in length, per cubic centimeter of air on an eight-hour time-weighted average basis. Although exposure levels did not exceed those limits set by the asbestos standard at 29 CFR 1910.1001(b), the evidence showed that the employer had failed to conduct its own monitoring of the worksite to determine whether employees were exposed to asbestos fibers or to give medical examinations to its employees.

On the basis of this evidence, an administrative law judge affirmed a citation issued against the employer for violations of asbestos monitoring and medical examination standards 29 CFR 1910.1001(f)(1) and (j)(1)(i). *Research-Cottrell*

Brown & Root, Inc. Post Office Box Three, Houston, Texas 77001



October 10, 1979
35-5019

TO: Carl Richardson
FROM: Charles Tedder
SUBJECT: Sample of Gasket Material

Mr. F. K. Parmely, Assistant Manager, Power Division Safety, asked me to send you two samples of Gasket Material used on Project 35-5019.

Mr. Parmely asked if you could possibly tell how much asbestos, if any is contained within these materials.

Charles Tedder
Charles Tedder
Safety Supervisor

cc: file