AVOID VERBAL INSTRUCTIONS

TO WAYNE WILLIAMS *

FROM G. D. TWAIT

BLDG./ROOM Loc. 514 Bldg. 8169-1

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COPY D. A. GOSSELIN 511/3005

SUBJECT November 1983 Revisions

D. T. WATTERS

SH-256, "REMOVAL & HANDLING

* attachment

ASBESTOS-CONTAINING INSULATION MATERIAL" DATE 3/21/84

WAYNE,

To confirm what I told you this morning during our phone conversation, the 8-hour TWA Permissible Exposure Limit (PEL) for employee exposure to airborne concentrations of asbestos fibers stated in the November 1983 revision to SH-256 will remain at 0.5 fibers/cc. Although the 11/4/83 OSHA Emergency Temporary Standard (ETS) for Asbestos that specified this PEL was ruled invalid this month by the courts, I expect that the proposed OSHA standard for asbestos, which is supposed to be issued for comments by May 1984, will include a PEL of 0.5 fibers/cc. The UCC Internal Exposure Standards List included in each division's S/H Information Manual has not been updated since 9/15/83, so it still lists the 2.0 fibers/cc PEL. I do not plan to revise SH-256 again until the final OSHA rule is issued, unless either the soon-to-be-announced proposed rule differs from the ETS or the S/H Standards Committee recommends that it be revised at its next meeting (3 Qtr 84).

Attached for your information is a copy of the ETS on which the November 1983 revisions were based.

Greg Twait

G. D. TWAIT

Rec'd
MAR 23 1984
WEW

511-TEMP-260

PLAINTIFF'S EXHIBIT
UC-2345

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respirators, and to assure that all such employees participate in the program and are informed of specified categories of information. OSHA considers this provision to be "necessary" within the meaning of section 6(c) of the Act, to reduce the grave danger faced by asbestos exposed employees. The absence of a training program requirement in the asbestos standard has been pointed out as one of the serious deficiencies of the current standard. OSHA believes that participation in an adequate training program is essential for the protection of employees because most protective provisions enlist the employee as an active participant. For example, many employees handling asbestos depend on effective work practices. Without training in applying these work practices, employee protection would be inadequate. Where the employee plays a more passive role in his protection such as where engineering controls are relied on, training is also essential, because the employee must know the sources of workplace asbestos contamination, and the health hazards of asbestos exposure, in order to assess his own exposure situation and to help recognize when engineering controls are not operating properly. Certainly where housekeeping plays an important role in control, instruction about housekeeping methods, for example, frequent vacuuming, is essential. Perhaps most importantly, where employee protection depends upon respirator use, OSHA's experience shows that training employees in the use, fitting and limitations of respirators is critical to the effectiveness of respirator protection. Accordingly this requirement applies where airborne concentrations are reasonably expected to exceed 0.5 f/cc, even if employees use respirators to reduce breathing zone concentrations and thereby comply with the ETS.

As set forth in paragraph (k)(4) the employer must inform the employee of the health effects of asbestos exposure; the relationship between asbestos and smoking in producing lung cancer; the operations exposing employees to asbestos fibers and necessary protective steps to minimize exposure; the purpose, proper use, fitting instructions and limitations of respirators, and the contents of all the provisions of the Asbestos Standard at 1910.1001.

5. *Paragraph (k)(5) Respiratory protection during the ETS.* The ETS adds a new paragraph (k)(5) which includes a table which ties respirator selection to the 0.5 f/cc PEL. Under the ETS, the concentration cut-offs for various kinds of respirators are multiples of the reduced PEL of 0.5 f/cc, rather than multiples of the previous 2 f/cc permissible limit. For example, approved air purifying respirators may be used only where asbestos concentrations are not expected to exceed 5 f/cc (10 x the PEL). Before the ETS, because the PEL was 2 f/cc, such respirators could be used where asbestos concentrations would not have exceeded 20 f/cc (10 x the PEL of 2 f/cc).

Similarly, powered air purifying respirators may be used where asbestos concentrations do not exceed 100 times the PEL, which at the new level of 0.5 f/cc is 50 f/cc. Previously, employers could have used such respirators at concentrations up to 200 f/cc.

It is likely that the main impact of the reduced PEL on respirator choice will be in operations and industries where exposure levels are between 5 f/cc and 20 f/cc. Formerly, employees exposed in this range could use half-mask air purifying respirators; now they must be protected by a powered air purifying respirator or a full facepiece respirator, or they may use a supplied air respirator.

6. *Paragraph (k)(6). Warning signs during the ETS.* The ETS requires that legible signs warning of the health hazards of asbestos be displayed at locations where airborne concentrations of asbestos fibers exceed the reduced exposure limit of 0.5 f/cc. No specific legend is required signs for newly posted during the ETS. OSHA wishes to make as practicable as possible the rapid posting of signs, especially in workplaces where there has been previous non-compliance and in areas where asbestos concentrations were formerly below the 2.0 f/cc PEL.

XI. Public Participation

Interested persons are invited to submit written data, views and arguments with respect to the revisions to the asbestos standard made by the ETS. These comments must be postmarked on or before January 3, 1984 and sent to the Docket Officer, Docket No. H-033C, Occupational Safety & Health Administration, U.S. Department of Labor, 200 Constitution Avenue, NW., Room S-6212, Washington, D.C. 20210.

The data, views and arguments that are submitted will be available for public inspection and copying at the above address. All timely written submissions will be made a part of the record of the proceeding.

List of Subjects in 29 CFR Part 1910

Occupational safety and health, Asbestos, Health, Emergency temporary standard, Cancer.

Authority and Signature

This document was prepared under the direction of Thorne G. Auchter, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210. Pursuant to Sections 6(b), 6(c), 8(c) and 8(g) of the Act, 29 CFR 1910.1001 is amended by adding a new paragraph (k) as set forth below.

(Secs. 6(b), 6(c), 8(c) and 8(g), Pub. L. 91-596, 84 Stat. 1593, 1596, 1599, 1600; 29 U.S.C. 655, 657; Sec. 107, Pub. L. 91-54, 83 Stat. 96 (40 U.S.C. 333); 29 CFR Part 1911; Secretary of Labor's Order No. 9-83 (48 FR 35736))

Signed at Washington, D.C., this 2nd day of November 1983.

Thorne G. Auchter,

Assistant Secretary of Labor.

PART 1910—[AMENDED]

Section 1910.1001 of Part 1910 of Title 29 of the Code of Federal Regulations is hereby amended by adding a new paragraph (k) reading as follows:

§ 1910.1001 Asbestos.

* * * * *

(k) *Emergency temporary standard effective November 4, 1983.*—(1) *Scope.* This emergency temporary standard is issued pursuant to section 6(c) of the Act and applies to all workplaces where employees may be exposed to asbestos in all industries covered by the Act, including, general industry, construction and maritime. Except to the extent modified by this emergency temporary standard all provisions of § 1910.1001 remain in effect.

(2) *Permissible levels of exposure.* The 8-hour time-weighted average airborne concentration of asbestos fibers to which any employee may be exposed shall not exceed one-half (0.5) fiber, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) *Methods of compliance with the emergency temporary standard.* Notwithstanding any other requirements of this section, compliance with the reduced exposure limit of 0.5 f/cc shall be achieved by any feasible combination of engineering controls, work practices, and personal protective equipment and devices.

(4) *Employee information and training.*—(i) As soon as possible, but not later than thirty (30) days from the effective date of this emergency temporary standard, the employer shall institute a training program for all employees exposed to airborne concentrations of asbestos in excess of

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0.5 f/cc, without regard to the use of respirators and shall assure their participation in the program during the effective period of this emergency temporary standard.

(ii) The employer shall assure that each such employee is informed of the following:

(A) The health effects associated with asbestos exposure;

(B) The relationship between asbestos and smoking in producing lung cancer;

(C) The nature of operations which could result in exposure to asbestos and necessary protective steps to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping and protective clothing;

(D) The purpose, proper use, fitting instructions and limitations of respirators permitted by the standard; and

(E) A review of all the provisions contained in 1910.1001.

(5) *Respiratory protection during the ETS.* Notwithstanding any other requirement of this section, where respirators are used to achieve the permissible exposure limit of 0.5 f/cc they shall be selected according to Table 1.

(6) *Warning signs during the ETS.* In addition to the requirements of paragraph (g)(1) of this section, legible signs warning of the health hazards of asbestos shall be provided and displayed at each location where airborne concentrations of asbestos fibers may exceed 0.5 f/cc.

TABLE 1

Respiratory Protection

For Airborne Concentrations of Asbestos

Airborne Concentration of Asbestos (TWA)	Required Respirator[1]
Not in excess of 5 f/cc (10 X PEL)	Reusable or single use air purifying respirator
Not in excess of 50 f/cc (100 X PEL)	Full facepiece air purifying respirator, or a powered air purifying respirator
Greater than 50 f/cc	A type "C" continuous flow or pressure demand, supplied air respirator.

[1] Respirators specified for high concentrations may be used at lower concentrations of asbestos.

(Secs. 6(b), 6(c), 8(c) and 8(g), Pub. L. 91-596, 84 Stat. 1593, 1598, 1599, 1600; 29 U.S.C. 655, 657; Sec. 107, Pub. L. 91-54, 83 Stat. 96 (40 U.S.C. 333); 29 CFR Part 1911. Secretary of Labor's Order No. 9-83 (48 FR 35736))

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XVIII. HEALTH AND SAFETY CONSIDERATIONS FOR ALL CRAFTSPERSONS IN HANDLING MATERIAL THAT CONTAINS ASBESTOS

(With the intent of Covering every craftsperson who might come in contact with asbestos)

Understanding a few facts and observing some common sense practices listed below will eliminate the Health Hazards associated with the use of asbestos and will insure the health of all craftspersons.

A. Major Concern for Asbestos Health Hazards

In those instances when asbestos fibers are present that are longer than five micrometers, the greatest health hazard exists. If these fibers are inhaled into the respiratory system, they collect in the lung sacs. If the quantities of these fibers are great enough to accumulate through years of continued inhalation, they take up substantial space normally used for air. The way in which asbestos fibers are more harmful than other foreign particles that enter the lung sacs is that they are not dissolved and absorbed into body waste streams to be carried away and discharged from the body as other particles are. They remain in the lung sacs. Membranes then grow around each fiber, resulting in a fibrosis of the lung sacs. Fiber by fiber over the years results in what we term "asbestosis."

B. Normally Asbestos is Not a Major Health Hazard

Under most conditions, asbestos is not normally in fiber form small enough to be airborne in a person's breathing zone and small enough to pass through the nasal filtering system of hair and mucous that filter out all but the very finest fibers. However, it is these small fibers longer than five micrometers entering the lungs that are considered to be the culprits that cause asbestosis.

C. Health Risks Associated with the Use of Asbestos Have Been Greatly Reduced

Risk of harm to craftspersons from the use of asbestos is slight because asbestos-free insulating materials are used exclusively now. Woven asbestos tape and sock has been replaced with woven fiber glass tape and sock in stores. No asbestos tape or sock is to be available from plant stores. Furthermore, previous personal sampling of the breathing zone air of employees indicates that allowable limits are seldom reached even when asbestos fibers are present in any type material or activity provided normal precautions are observed.

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XVIII. HEALTH AND SAFETY CONSIDERATIONS FOR ALL CRAFTS-PERSONS IN HANDLING MATERIAL THAT CONTAINS ASBESTOS

D. Our Concern - The Potential Harm from Existing Insulation Materials in the South Charleston Plant

The potential harm to employees at the South Charleston plant lies almost exclusively in the removal, cleanup and disposal of existing insulation materials which were applied prior to 1972.

The exposure we are concerned with is the stripping, cleanup, and disposal of old insulation. On piping, any insulation with tar paper weather barrier will most probably contain asbestos fibers. A number of steam-traced lines were insulated with "Unibestos" (trade name) and some of these lines will have either cloth and mastic or metal weather barrier. This material (Unibestos) contains asbestos, is easily recognized and must be handled, stripped off, cleaned up, and disposed of, using full precautions.

Now, we have another concern. A number of our steam lines are in the process of extensive repairs to the weather barrier and replacement of damaged sections of insulation. These will tie into present asbestos contained in pipe covering and will cover existing asbestos contained in insulation. In the future, all this insulation will have to be considered to contain asbestos and precautions taken to eliminate hazards.

Tank covers installed prior to 1972 will be treated as though they also contain asbestos and all precautions will be taken during stripping, cleanup, and disposal.

Old steam trap lines, steam tracers, etc. will have asbestos sock or tape. Should you encounter any of these situations, consider the insulation to contain asbestos and take the necessary precautions.

If you aren't sure of the kind of material you are getting ready to remove, ask your area insulator supervisor or observe all precautions.

E. Protection from Potential is Assured

By following a few precautionary measures as required by OSHA regulation 1910.1001 and using sound judgment, each employee can perform his/her work in a perfectly safe and healthful manner.

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XVIII. HEALTH AND SAFETY CONSIDERATIONS FOR ALL CRAFTS-PERSONS IN HANDLING MATERIAL THAT CONTAINS ASBESTOS

E. Protection from Potential is Assured (continued)

Present OSHA Allowable Limit

During an eight-hour period, the time-weighted average shall not exceed two fibers longer than five micrometers, per cubic centimeter of air.

OSHA Ceiling Concentration

No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of ten fibers, longer than five micrometers, per cubic centimeter of air. Methods of measuring airborne concentrations are spelled out in the OSHA Register, regulation 1910.001 (e).

March 1982
GAS/WBT/CED
Attachment

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MANDATORY PRECAUTIONS AND PROCEDURES TO BE FOLLOWED WHEN HANDLING AND WORKING WITH MATERIALS CONTAINING ASBESTOS

CHECK LIST

1. Respirators

Shall be worn while removing and cleaning up all insulation, whether asbestos is present or not. Disposable types are allowed if they meet requirements. If upper limits are reached, supplied air respiratory equipment must be used.

2. Work Area Precautions

The work area will be roped off with yellow barricade tape during the removal and cleanup of asbestos-laden insulation. Warning signs to state: ASBESTOS -- AVOID BREATHING DUST -- WEAR PROTECTIVE EQUIPMENT -- DO NOT REMAIN IN AREA UNLESS YOUR WORK REQUIRES IT -- BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH -- must be posted outside each barricaded area to warn an employee desiring to enter the area so he/she can take the necessary protective steps. The barricade tape and warning signs are to remain in place until the job is complete.

If the work is being performed where areas cannot be swept, or above open grating, the work area shall be covered with plastic sheeting or tarpaulins to contain the asbestos-laden insulation. Over grating, this will prevent insulation from filtering through into other work areas and will protect other employees from the asbestos hazards. On slagged areas this will prevent mixing insulation in the slag, made for easier cleanup and not leave insulation residues on the ground.

3. Wet Cleanup

Insofar as practicable, insulation containing asbestos should be wet down before removal, cleanup and disposal to prevent the presence of airborne fibers. If this is not practicable, place plastic sheeting under the job being stripped and mist spray, with water, the removed insulation. Where possible, strip the insulation into labeled plastic bags on the job site (fiber-pacs can be used to support bags until bag is wired closed).

When wet removal, cleanup is impractical due to temperature - below 32°F - location and/or nature of the job, sweeping compound will be applied to the work area during cleanup.

All insulation will be stripped and bagged in the area in which it is removed.

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CHECK LIST (continued)

4. Disposal

All removed insulation containing asbestos will be placed in dust-proof polyethylene bags, the bags wired closed and caution label attached to caution personnel about the asbestos contents. Bags with caution label on the bag front are being used. Each area insulation caution label on the bag front are being used. Each area insulation supervisor has a supply of these bags. The bagged insulation must be disposed of in landfill. This means we will place the bags in open top dumpsters and deliver to Goff Mountain only for covering up with soil.

5. Clothing Storage

Work clothing used by insulators will be stored in separate lockers away from their street clothing. Coveralls will be supplied for jobs where insulation containing asbestos is being removed, cleaned up, and disposed of. Coveralls will be changed each day when the concentration of asbestos fibers may be heavily concentrated. Coveralls should be removed or vacuumed before entering eating facilities or where food is handled.

Vacuums may be used to remove dust from clothing. CAUTION -- at no time will compressed air be used for dusting off skin or clothing.

6. Laundering

All protective coveralls used by insulators will be placed in dust-proof polyethylene bags, wired closed, and a caution label attached to each bag to alert the laundry employees of the possible asbestos contamination of the contents.

CAUTION -- Used bags are to be disposed of and coveralls returned in clean containers.

7. Monitoring

All jobs of significant size are to be monitored. Safety Department will monitor these jobs with designated equipment for air samples at the employees' breathing air zone. Results will be recorded. One-day notice should be given to the Safety Department so equipment can be prepared for the job. Monitoring results will be administered in accordance with Safety/Health Procedure No. 16.

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8. EPA Notification

Stripping jobs of insulation containing asbestos must be reported to the plant EP Department (John Soice) for all large-scale jobs. A large-scale job is one where more than 260 linear feet of pipe is to be stripped or a job where more than 160 square feet is to be stripped. Notification must be 20 days in advance so proper notification can be filed with EPA.

9. Medical Records

Will be maintained by the Medical Staff.

Respirators approved for use:

a) Normal Dust Exposure - 3M Respirator No. 8710
Norton Respirator No. 7170

Both of the above are of the single use, disposable type.

b) Heavy Dust Exposure - Type "C" supplied air, continuous flow or pressure-demand type, supplied with full breathing air from breathing air cylinders.

WARNING SIGNS

To State: Asbestos
Dust Hazard
Avoid Breathing Dust
Wear Assigned Protective Equipment
Do Not Remain in Area Unless Your Work Require It
Breathing Asbestos Dust May be Hazardous to Your Health

Warning signs are located in each insulator building and must be used.

CAUTION LABELS

To State: CAUTION - Contains Asbestos Fibers
Avoid Breathing Dust
Breathing Asbestos Dust May Cause Serious Bodily Harm

Caution tags for polyethylene bags containing discarded asbestos insulation materials and polyethylene bags containing coveralls used by insulators being sent to the laundry are stocked by each insulator supervisor in the three geographic areas. Bags with caution notices printed on the front are now being stocked and will be used.

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PROCEDURE FOR HANDLING AND DISPOSAL OF
ASBESTOS WASTE FROM THE SOUTH CHARLESTON PLANT

All asbestos waste leaving the plant must be hauled to Goff Mountain disposal site in the proper individual marked containers (dust proof polyethylene bags with all OSHA specified warnings printed thereon).

The truck drivers must have in their possession a properly filled-out manifest as prescribed by RCRA. The truck bed will be covered to avoid asbestos fibers from being dispensed to the atmosphere.

Specific large truck beds will be used in hauling asbestos waste outside the plant to Goff Mountain; however, other types and sizes of waste containers can be used to collect asbestos waste within the plant and then transfer to the larger (15 to 20 Cu Yd) bed south of building 251. The manifest will be issued by the trucking function of the Maintenance Department and approved by E.P.D.

BPJ
7/29/80

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