PLAINTIFF'S EXHIBIT DUP-815

HANDLING ASBESTOS-CONTAINING MATERIALS	ENGINEERING DEPT. SAFETY PRACT	
	ISSUED: 10/10/73	EDS-7.6
	REVISED: 4/15/79	PAGE 1 OF 7

I. SCOPE

This procedure presents the permissible asbestos dust exposure limits, method of controlling asbestos dust exposure, hygiene factors, respiratory protective equipment, and method of sampling asbestos dust concentrations in the work area.

II. PERMISSIBLE ASBESTOS DUST EXPOSURE LIMITS

A. "Asbestos fibers" means fibers longer than 5 microns which may become airborne.

B. The maximum airborne concentration shall not exceed an 8-hour time-weighted average (TWA) of 2.0 fibers longer than 5 microns per cubic centimeter of air.

C. At no time may the airborne concentration of asbestos fibers exceed a ceiling of 10 fibers per cubic centimeter of air.

D. The 8-hour time-weighted average (TWA) is the average concentration occurring over a period of 8 continuous hours.

E. Any employee found to have been exposed at any time to airborne concentrations of asbestos fiber in excess of the limits prescribed in II, B, C shall be notified in writing of the exposure as soon as practical but not later than 5 days after the finding. The employee shall also be notified of the corrective action being taken.

III. CONTROL OF ASBESTOS DUST

A. Compliance with permissible exposure limits must be accomplished by Engineering Methods (for example, isolation, enclosure, exhaust ventilation, dust collection) and/or Work Practices as described in this section.

B. Compliance with permissible exposure limits may not be achieved by the use of respirators or ~~shift~~ rotation of employees, except:

(1) During the time period necessary to install the engineering controls and to institute the work practices as described in this section.

(2) In work situations in which engineering methods of control or work practices are either technically not feasible or feasible to an extent insufficient to reduce the airborne concentrations of asbestos fibers below the permissible limits.

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III. CONTROL OF ASBESTOS DUST - (Cont'd.)

(3) In emergencies.

(4) Where both respirators and personnel rotation are allowed by items (1), (2), or (3) and both are practical, respirator usage shall be preferred and used.

C. Suitable non-asbestos bearing materials should be specified and used wherever available.

D. Handle cartons of asbestos with care to minimize creation of dust.

E. Vacuum upon opening and prior to removal of material, new cartons of asbestos-containing material to remove dust accumulation.

F. All hand-operated or power-operated tools which may produce or release asbestos fibers in excess of permissible exposure limits shall be provided with a dust collection system.

G. Work areas where asbestos-containing material is being handled shall be vacuum cleaned at least daily. It is recommended that a wet-dry vacuum cleaner with a throw-away filter be used. A Sears Model 20G61522 vacuum cleaner is adequate. The cleaner should always be operated with a heel of water in the canister. Refer to Engineering Standard S4T, Paragraph 4.3.3 and 4.8 for additional information.

H. Asbestos containing materials will be placed in disposal bags immediately upon removal.

I. Caution signs stating "Asbestos Dust Hazard" and listing precautions to be taken as in Figure 1, Engineering Standard S4T, shall be posted at all approaches to areas where asbestos concentrations may be above permissible exposure limits.

J. Caution signs shall be placed at sufficient distance to permit an employee to read the signs and take necessary precautions before entering the area. Caution signs shall be as shown in Figure 1 of Engineering Standard S4T.

K. Dampen insulation to be removed prior to removal, except where the insulation has been fabricated and protected to withstand repeated removal and reinstallation provided the protection is still intact.

III. CONTROL OF ASBESTOS DUST - (Cont'd.)

L. Insulation to be removed will be knife cut and handled carefully. Breaking off with a hammer or similar instrument is not permissible.

IV. PROTECTIVE EQUIPMENT

Where use of respirators is permitted due to exceptions listed in III, B, they shall be of the type described as follows:

A. A reusable or single use air purifying respirator meeting the Bureau of Mines Schedule 21C (Stores Stock No. 12-6860) is required when the permissible asbestos dust exposure limit may be exceeded, but where the TWA or ceiling concentrations are reasonably expected not to exceed 10 times this permissible limit.

B. Atmosphere supplying respirators meeting Bureau of Mines Schedule 19B (Stores Stock No. 12-7250) are required when the TWA is reasonably expected to exceed 10 times the permissible asbestos dust exposure limits and when spraying or demolition (not routine maintenance type work) of insulation is being done regardless of fiber concentration.

C. Persons handling asbestos-containing materials where the permissible limits may be exceeded will wear overalls, rubber overshoes, and an approved respirator as defined in A or B above.

D. Personnel requiring respirators must have participated in the Plant Respirator Program and be qualified (medically) to wear them.

V. SAMPLING AND RECORDKEEPING

A. Sampling is required where employees are exposed to asbestos dust to determine the employee's exposure.

B. Sampling of each operation must be taken in a frequency and pattern to represent accurately the employees exposure over his work period.

C. The initial sampling program must determine the 8-hour time-weighted average.

D. Intervals between samples shall not exceed six months. Scheduling will be the responsibility of maintenance work groups.

E. Each sampling period shall be of at least a 15-minute duration.

V. SAMPLING AND RECORDKEEPING - (Cont'd.)

F. Pump and filters used for sampling shall be as shown in Engineering Standard S4T.

G. Sampling procedure shall be as shown in Engineering Standard S4T.

H. Exhibit "A" shall be completed for each sampling period.

I. Sampling will be performed by Engineering Technical Services. It will be the responsibility of maintenance work groups to notify Engineering Technical Services when sampling is to be accomplished.

J. Copies of all sampling results shall be forwarded to Works Environmental Control and to Plant Medical.

K. Records of personnel and environmental monitoring shall be maintained for forty (40) years after employee termination. Records shall be made available to employees.

VI. DISPOSAL

A. Asbestos waste shall be collected for disposal in sealed, impermeable bags or containers. Caution labels stating "Contains asbestos fibers, avoid creating dust and breathing asbestos dust may cause serious bodily harm" shall be attached. Engineering Standard S4T, Figure 2 illustrates typical caution label.

B. The sealed bags shall be collected at a spot designated in each area by the Area Supervisor. The Engineering Service Foreman will arrange pickup and delivery to a centrally located 30-yard dumpster daily. When the dumpster is full, the Engineering Service Foreman will request the Engineering Materials Coordinator, Business Services Department, to arrange for it to be transported to a State regulated disposal site for dumping.

C. Asbestos contaminated clothing to be laundered shall be handled in sealed, labeled bags. Persons involved in handling the clothing shall be instructed in proper handling as prescribed in VII, C.

D. Used vacuum cleaner heels water, filters and single use air purifying respirators shall be treated as asbestos waste. They shall be collected and discarded in sealed bags as in VI, B.

VI. DISPOSAL - (Cont'd.)

E. Caution labels conforming to Figure 2, Engineering Standard S4T, shall be used to identify containers of raw materials, scrap waste, or other products containing asbestos and asbestos contaminated clothing.

VII. PERSONNAL HYGIENE AND MEDICAL TESTS

A. Persons handling insulation will vacuum clean their clothing and shoes at the conclusion of each assignment, before break period, lunch period, and at shift change.

B. Persons handling asbestos containing insulation must wear coveralls and can only wear these coveralls for one work day. The used coveralls must be laundered before reuse.

C. Asbestos-contaminated clothing to be laundered shall be handled in sealed, labeled bags. Persons involved in the handling of the clothing for laundering shall be instructed to empty the clothing directly into tub of water without shaking. After the bags have been emptied, they are to be retied and disposed of by burying. Off-plant launderers should be alerted to the handling procedure specified above so that exposure limits outlined in II B, C are not exceeded.

D. Employees handling insulation will have an annual medical examination which shall include as a minimum, a chest X-ray (posterior-anterior 14 X 17), a history of elicit symptomatolcgy of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expriatory volume at one second (FEV).

E. An employee newly assigned to an occupation wherein the potential exists for exposure to airborne concentrations of asbestos must receive a physical exam within 30 days of such assignment. The Area Supervisor will be responsible for making the arrangements with Medical.

F. Medical records shall be retained a minimum of 40 years after employee termination.

VIII. AGENCY NOTIFICATION

Prior to removing asbestos containing materials from pipes, vessels structural members, etc., such as during "renovation" or "demolition" type work, notification of the plant Environmental Coordinator (who in turn must notify the Environmental Protection Agency within a specified time) is required in certain circumstances.

A. Renovations (Notification in Some Cases)

Renovations involve the removing or stripping away of asbestos containing materials from pipes, ducts, boilers, vessels, furnaces or structural members.

1. Before a renovation of over 260 linear feet of pipe or over 160 square feet of surface can be started, the responsible Engineering Department supervisor or the "DuPont Representative" (when outside contractors are to perform the work) must contact the plant Environmental Coordinator 25 days prior to starting the renovation.

Exception: Unplanned renovations may require removal of asbestos containing materials in quantities listed above or more. In this case, the plant Environmental Coordinator shall be notified as soon as possible before renovation begins. Only the amount of asbestos to be removed should be considered when notifying the Environmental Coordinator.

For an emergency, the notice might occur after the act in some situations.

B. Demolitions (Nofification in All Cases)

A demolition occurs only when asbestos containing materials is removed or stripped prior to the wrecking or removal of a load supporting structural member (beams or load supporting walls).

1. The responsible Engineering Department supervisor or the "DuPont Respresentative", in case of contract work, shall contact the plant Environmental Coordinator 25 days prior to any demolition, regardless of the amount of asbestos containing material to be removed.

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