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UNION CARBIDE

PLANT 512

MAINTENANCE DEPARTMENT

MSP- 329

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Review Frequency 1 Yr.

Supersedes 7-1-84

Effective: 1-10-86

PLAINTIFF'S EXHIBIT

UC-3360

PROTECTION AGAINST BREATHING ASBESTOS

1.0 PURPOSE:

To provide a procedure for the safe removal, handling, and disposal of material containing asbestos so as to minimize exposure to personnel. (The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed 2 fibers, longer than (5) micrometers, per cubic centimeter of air.)

2.0 RESPONSIBILITY:

2.1 It is the responsibility of the appropriate Maintenance First-Line Supervisor and craftspersons to control the safe removal and disposal of asbestos-containing material at the Institute Plant.

2.2 It is the responsibility of the First-Line Supervisor to notify the Environmental Protection Department (EPD) at Ext. 6228 and the Industrial Hygiene Department at Ext. 6105 of a stripping job of more than 260 linear feet of pipe insulation or more that 160 square feet prior to the beginning of such a job.

2.3 Jobs smaller than the above criteria shall be evaluated by the Maintenance First-line Supervisor as to the need for and extent of any monitoring. Evaluation shall be based on job size, complexity, and location. If monitoring is deemed necessary, it is the responsibility of the Maintenance First-line Supervisor to notify the Industrial Hygiene Department and request monitoring.

2.4 Proper housekeeping (as per 3.4) is the responsibility of each individual in performance of the work assignment. Use appropriate equipment and tools for cleanup to prevent dust release. Keep material in a "damp state" during cleanup.

2.5 It is the responsibility of the individual craftsperson to wear respiratory protective equipment (as stated in 3.5) when stripping or cleaning up asbestos-containing insulation.

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3.0 PROCEDURE:

3.1 Insofar as practicable, demolition, removal or handling of asbestos-containing insulation shall be performed while the material is in a sufficiently wet state to prevent emission of airborne fibers exceeding exposure limits prescribed in 1.0 of this procedure.

3.2 The work area shall be roped off with yellow barricade tape during the removal and cleanup of asbestos-laden insulation. Warning signs are to state:

CAUTION
ASBESTOS DUST HAZARD
WEAR ASSIGNED PROTECTIVE EQUIPMENT
DO NOT REMAIN IN AREA UNLESS YOUR WORK REQUIRES IT
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH

These signs must be posted outside each barricaded area to warn an employee desiring to enter so they can take the necessary protective steps. Signs must be posted at approximately 50-foot intervals, along the barricaded area and at all access routes to the job site; barricade tape and warning signs are to remain in place until the job is complete. If the work is being performed above slagged areas or above grating, the work area shall be covered with plastic sheeting or plastic tarpaulins or other material (whenever feasible) or other such protection as needed to contain the asbestos-laden insulation. In open grating areas, 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 and make for easier cleanup and will not leave insulation residues on the ground.

3.3 When a partial removal of asbestos insulation is required, for whatever reason, it shall be the policy to properly reseal the ends of the asbestos insulation left in place.

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3.0 PROCEDURES (continued)

3.4 Insofar as practicable, removed insulation shall be wetted and placed directly into labeled plastic bags (or properly tagged plastic bags) as per 3.12 or other suitable containers for disposal at the Goff Mountain Landfill. Otherwise, place plastic sheeting beneath the job site, mist spray the removed insulation with water, and then place in plastic bags. When wet methods of removal/cleanup are impractical, e.g., when temperatures are below freezing, vacuuming or sweeping may serve as an effective alternate cleanup method. Sweeping compound shall be applied to the work area to prevent dust generation when sweeping. Every effort should be made to avoid sweeping as a cleanup procedure.

3.5 Employees engaged in the handling or removal of asbestos-containing material will wear NIOSH approved respiratory protection. Either reusable or single use air purifying respirator may be used to reduce exposure below permissible limits when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers is reasonably expected to exceed no more than ten times the Permissible Exposure Limit (PEL). If exposure limits have not been monitored and verified, a type "C" continuous flow or pressure-demand, supplied-air respirator must be used.

3.6 All external surfaces shall be maintained free of accumulation of asbestos fibers. Special attention should be given to cleaning scaffolds used in stripping work.

3.7 Wetting of asbestos-containing material will be done in such a manner as not to wash the fibers into the ground, drainage trenches or sewer facilities.

3.8 Protective work clothing (such as disposable or standard coveralls and gloves) will be used on all jobs involving the handling or removal of asbestos-containing material.

3.8.1 Protective clothing will be worn prior to contact with asbestos-containing material.

3.8.2 Protective clothing will be removed at the work site and placed in approved and properly labeled containers.

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3.0 PROCEDURES (Continued)

3.8.3 Protective clothing will be removed prior to coming in contact with other personnel, eating, smoking or using facilities that are used by other personnel.

3.8.4 Respirators must be removed last. Disposable respirators must be placed in labeled bags and disposed of with other asbestos waste. Reusable respirators must be placed in labeled plastic bags and returned to Safety Supply for cleaning.

3.9 Asbestos-containing material, including used disposable protective clothing, will be collected in impermeable sealed bags or containers that are properly labelled as per 3.12 below and disposed of in the same manner as all other asbestos materials. should be 3.11

3.10 Contaminated reusable clothing will be collected and transported in sealed impermeable bags or closed containers, properly labelled as described in paragraph 3.12. This clothing will be sent to a commerical laundry which has facilities for cleaning asbestos contaminated clothing.

3.11 Disposal containers or laundry bags shall read:

CAUTION
Contains Asbestos Fibers
Avoid Creating Dust
Breathing Asbestos Dust
May Cause Serious Bodily Harm

3.12 Locker rooms shall be utilized so as to minimize exposure to asbestos.

3.13 Removal of asbestos-containing insulation prior to equipment or facilities demolition is required if excessive dusting is expected. Loose insulation stripped from piping, equipment, etc., shall not be dropped or thrown to the ground. Any variance from this procedure must be approved by the Industrial Hygiene Department. All asbestos-containing insulation shall be handled as per 3.5.

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3.0 PROCEDURES (continued)

3.14 Disposal area requirements (by the Environmental Protection Department) are as follows:

3.14.1 Six inches of earth cover is provided over disposed insulation within 24 hours.

3.14.2 The area is fenced and warning signs are posted at 330-foot intervals. The signs shall state:

ASBESTOS WASTE DISPOSAL SITE
DO NOT CREATE DUST

BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

3.15 Signs for posting work areas (3.3) should be 3.2 are available through our Safety Supply group located in Building 307. They comply with OSHA copy, letter size, sign color, size, etc.

3.16 Tags and bags for insulation waste and contaminated clothing (3.12) should be 3.11 are available in Plant Stores. They also comply with OSHA regulations regarding copy, letter size, size of tag, color, etc.

3.17 Training for all Maintenance personnel in the Insulator/Painter work classification shall be done annually and recorded on the STAIRS Program. This training shall cover such areas as the safe stripping, potential health effects, cleanup and disposal of asbestos-containing materials; use of proper personal protection equipment before, during and after exposure to potential asbestos-containing material; what to look for in potential asbestos-containing insulation, i.e., pipe lines with cloth weather barriers, lines with rusted metal jacketing, trap lines or tracers with sock or tape, tank coverings known to have been installed prior to 1972, etc.; how to properly handle all protective equipment including respirators and clothing that has been used in asbestos work; etc. A review of this entire procedure must also be a part of each craftsperson's annual training.

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