## Asbestos Exposure

1. **Purpose**

To reduce prolonged exposure to asbestos fibers that has been proven to cause debilitating respiratory diseases such as asbestosis, lung cancer, mesothelioma and cancer of the stomach and colon. This program shall be implemented to reduce employee exposure to or below the TWA and/or excursion limit.

1. **Exposure**

Asbestos can be found in materials used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire-resistant drywall.

Asbestos is also present in pipe and boiler insulation materials, pipeline wrap and in sprayed-on materials located on beams, in crawlspaces, and between walls.

No employee shall be exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air in 30 minutes.

1. **Assessment and Monitoring**

Where exposure monitoring is required, determinations of exposure will be made from breathing zone air samples that are representative of the 8 hour TWA and 30 minute short term exposure of each employee. All air sampling shall be documented.

Representative 8 hour TWA exposure will be determined on the basis of one or more samples representing full shift exposure for employees in each work area. Representative 30 minute short term exposures will be determined on the basis of one or more samples representing 30 minute exposure associated with operation that are most likely to produce exposures above the excursion limit for employees in each work area.

A competent person will conduct an exposure assessment immediately before or at the initiation of an operation that may expose a worker to asbestos to determine expected exposures. The assessment must be completed in time to comply with requirements which are triggered by exposure data or the lack of a "negative exposure assessment," and to provide information to assure that all control systems are appropriate for that operation and will work properly.

Affected employees will be notified of any monitoring results in writing either individually or by posting in a centrally located area. Employees and their designated representatives will be provided with an opportunity to observe any monitoring of employee exposure to asbestos.

1. **Signs and Labels**

Areas that contain Asbestos Containing Material (ACM) and/or Presumed Asbestos Containing Material (PACM) shall be appropriately marked with signs and labels that meet OSHA requirements. Signs shall be posted at the entrance of mechanical rooms/boiler rooms/etc. which contain the ACM/PACM. The sign must identify the material present, its location, and the appropriate work practices to ensure that ACM is not disturbed. These signs must be comprehensible to those employees who may encounter them (such as, in foreign language, pictographs, graphics, or awareness training etc.). Some examples are:

**DANGER**

**PIPE INSULATION WITHIN THIS ROOM CONTAINS ASBESTOS FIBERS**

**AVOID BREATHING DUST**

**CANCER AND LUNG DISEASE HAZARD**

**SEE MAINTENANCE SUPERVISOR FOR APPROPRIATE WORK PRACTICES**

1. **Regulated Areas**

Regulated areas shall be established whenever airborne concentrations of ACM or PACM are in excess of the TWA and/or the excursion limit.

* The boundaries are set in a manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos.
* Only authorized personnel may be allowed enter regulated areas and they must use respirators.
* No smoking, eating, drinking, chewing tobacco or gum, or applying cosmetics is permitted in regulated areas.
* Warning signs have to be displayed at each regulated area and must be posted at all approaches to regulated areas.
* Asbestos work performed within regulated areas will be supervised by a competent person.

1. **Multi-Contractor Worksites**

Facilities with ACM have particular responsibilities for notifying the following of it’s presence of at the work site:

* Prospective contractors applying or bidding for work if their employees could be working in or adjacent to areas containing the ACM.
* Employees who could be working in or adjacent to areas containing the ACM.
* All other employers with employees who could be working in or adjacent to areas containing the ACM.

Any employer performing work which requires the establishment of a regulated area must inform all other employers on the worksite of the nature of the work, the requirements pertaining to the regulated area, and the measures employed to assure other employees are not exposed to asbestos.

If employees working immediately adjacent to a Class I asbestos job are exposed to asbestos due to the inadequate containment of such a job, their employer shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

The employer of employees working adjacent to a regulated area shall:

* Take steps daily to ascertain the integrity of the enclosure or other control methods that are being used by the asbestos employer to assure that asbestos fibers do not migrate into the work area.
* Comply with applicable protective requirements to protect their employees.

1. **Engineering and Work Practice Controls**

The following engineering and work practice controls shall be used to reduce employee exposure to airborne concentrations of asbestos to the extent that they are feasible.

* Asbestos must be handled in a wet state. This “wet” method must also be used when products containing asbestos are removed from bags, cartons, or containers. If this is not possible, removal must be done in an enclosed or well ventilated area.
* Respirators must be used where engineering controls have been instituted but are insufficient to reduce exposure to the required level.
* Use vacuum cleaners equipped with HEPA filters to collect all debris and dust containing ACM and PACM, except for roofing material.
* Ensure prompt clean-up and disposal of wastes and debris contaminated with asbestos in leak-tight containers, except in roofing operations.
* Use local exhaust ventilation equipped with HEPA filter dust collection systems.
* Use enclosure or isolation of processes producing asbestos dust.
* Use ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter.

1. **PPE**

Respirator shall be used for work practice controls, work operation, to reduce exposure and in emergencies. The respirator shall be provided at no cost to the employees and shall be NIOSH approved.

Protective clothing, such as coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings will be worn by employees exposed to airborne concentrations of asbestos that exceed the PELs, or for which a required negative exposure assessment is not produced. Contaminated clothing will be laundered so as to prevent the release of airborne asbestos in excess of the PELs. Any person who gives contaminated clothing to another person for laundering will inform that person of this requirement.

1. **Training**

Asbestos Awareness training is provided and documented for any employee(s) whose work activities may expose them to asbestos containing material (ACM) or presumed asbestos containing material (PACM) but do not disturb the ACM or PACM during their work activities.

Training shall be provided to all employees who are exposed to airborne concentrations at or above the permissible exposure limit (PEL) prior to initial assignment and annually thereafter. Training shall be conducted in a manner that the employee is able to understand & shall include health effects associated with exposure to asbestos.

Written materials relating to the employee training program will be readily available to affected employees, the assistant Secretary of Labor for Occupational Safety and Health and the director of the National Institute for Occupational Safety and Health.