Asbestos Operations and Maintenance Plan

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Contents

Program Objective

The following policy for prevention of employee exposure to hazardous levels of asbestos is adopted by UF in accordance with §1926.1101- Asbestos (OSHA Regulations).

Purpose and Scope

UF has implemented this policy to ensure that no employee is exposed to airborne concentrations of asbestos at levels in excess of permissible exposure limits. In order to achieve this, the following training, controls, and safe work practices will be implemented and enforced:

Contractor Responsibilities

Employees will be provided with information and training prior to or at the time of their initial assignment to a work area where asbestos is present and written materials will be readily available to all affected employees.

The training program will be conducted in a way that employees are able to understand and will include health effects which include respiratory disease and various types of cancer. Training will also include information on the relationship between smoking and exposure to asbestos producing lung cancer.

Employees will be informed of all regulated areas and are properly trained in entrance procedures, safety requirements, and practices while in regarded areas.

Negative pressure respirators are ensured to fit properly and will be checked annually to make sure that the respirator continues to fit properly. Employees wearing negative pressure respirators will have either quantitative or qualitative fit tests; the qualitative fit tests may be used only for testing the fit of a half mask. All testing will be supervised.

A certificate of training will be provided and maintained.

University Facilities Responsibilities

UF will provide, at no cost to the employees, respirators that meet NIOSH approval. Respirators will be used in the following 4 circumstances:

- Work practice controls
- To reduce exposure
- Work operations
- In emergencies

The UF Respiratory Protection Program and required respiratory protective equipment is provided at no cost to the employees with potential for exposure to asbestos.

Employees will be provided with information and instruction on respirators, protective clothing, other PPE, and their limitations.

Clemson University will ensure that employees working in regulated areas comprehend the required warning signs that are posted. Means to ensure employee comprehension may include the use of foreign languages, pictographs, and graphics.

Labels will be affixed to all products containing asbestos and to all containers containing such products, including waste containers. Installed asbestos products will contain a visible label, when feasible.

Definitions

Asbestos - includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered.

Asbestos - containing material (ACM) - any material containing more than one percent asbestos.

Authorized person - any person authorized by the employer and required by work duties to be present in regulated areas.

Class I asbestos work - activities involving the removal of TSI and surfacing ACM and PACM.

Class II asbestos work - activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III asbestos work - repair and maintenance operation, where ACM, including TSI and surfacing ACM and PACM, is likely to be disturbed.

Class IV asbestos work - maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.

Competent person - one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f): in addition, for Class I and Class II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR part 763) for supervisor, or its equivalent and, for Class III and Class IV work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92 (a)(2).

Decontamination area - an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

Disturbance - activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

Employee exposure - exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

PACM - stands for presumes asbestos containing material

Regulated area- an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work are within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit.

Removal - all operation where ACM and/or PACM is taken out or stripped from structures or substrates, and includes demolition operations.

Renovation - modifying of any existing structure, or portion thereof. Repair means overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structure or substrates.

Surfacing material - material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

Surfacing AMC - surfacing material which contains more than 1% asbestos. Thermal system insulation (TSI) means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain. Thermal system insulation ACM is thermal system insulation which contains more than 1% asbestos.

Asbestos Awareness Training

(In accordance with OSHA regulations as defined in § 1926.1101)

Permissible Exposure Limits (PELS)

Time-weighted average limit (TWA)/Excursion limit- UF will ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of 30 minutes.

Regulated Areas

All Class I, II and II asbestos work shall be conducted within regulated areas. All other operations covered by this standard shall be conducted within a regulated area where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed a PEL.

The regulated area shall be defined in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne asbestos.

Access to regulated areas shall be limited to authorized personnel and to personnel authorized by the Act or regulations issued pursuant thereto.

UF will ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the regulated area.

UF will also ensure that all asbestos work performed within regulated areas is supervised by a competent person.

Exposure Assessments and Monitoring

General Monitoring Criteria

UF will perform monitoring to determine accurately the airborne concentrations of asbestos to which employees may be exposed.

Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 30-minute short-term exposures of each employee.

Initial Exposure Assessment

UF will ensure that a "competent person" conducts an exposure assessment immediately before or at the start of any work operations. The assessment will be completed in a timely manner, as to provide information necessary to assure that all control systems planned are appropriate and will work properly.

Negative Exposure Assessment - when asbestos exposure is below the PEL.

Periodic Monitoring

Class I and II operations. UF will conduct daily monitoring when employees are performing Class I or II work, unless a negative exposure assessment has been made.

All operations under the standard other than Class I and II operations. UF will conduct periodic monitoring of all work where exposures are expected to exceed the PEL.

Termination of Monitoring

If periodic monitoring reveals that employee exposures are below the permissible exposure limit and excursion limit, UF may discontinue monitoring for those employees whose exposures are represented by such monitoring.

Additional monitoring. UF may institute exposure monitoring whenever there has been a change in process, control equipment, personnel or work practices that may result in new or additional exposures above the permissible exposure limit and/or excursion limit. Such additional monitoring is required regardless of whether a "negative exposure assessment" was previously produced for a specific job.

Employee Notification of Monitoring Results

UF will notify affected employees of the monitoring results that represent that employee's exposure as soon as possible following receipt of monitoring results.

UF will also notify affected employees of the results of monitoring representing the employee's exposure in writing.

Observation of Monitoring

UF will provide affected employees and their designated representatives an opportunity to observe any monitoring of employee exposure to asbestos that is conducted.

Methods of Compliance

The UF will use the following engineering controls and work practices in all operations covered by this section, regardless of the levels of exposure:

- Vacuum cleaners equipped with HEPA filters to collect all debris and dust containing ACM and PACM.
- Wet methods, or wetting agents, to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup, except where employers demonstrate that the use of wet methods is infeasible.
- Prompt clean-up and disposal of wastes and debris contaminated with asbestos in leak-tight containers except in roofing operations.

In addition to the requirements of this section, the UF will use the following control methods to achieve compliance with the TWA permissible exposure limit and excursion limit:

- Local exhaust ventilation equipped with HEPA filter dust collection systems.
- Enclosure or isolation of processes producing asbestos dust.
- 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.

Prohibitions

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM or PACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

- Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
- Dry sweeping, shoveling or other dry clean-up of dust and debris containing ACM and PACM.
- Employee rotation as a means of reducing employee exposure to asbestos.

Respiratory Protection

General

For employees who use respirators required by this section, UF will provide respirators.

Respirator program. No employee shall be assigned to asbestos work that requires respirator use if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally while using a respirator, or that the safety or health of the employee or other employees will be impaired by the employee's respirator use. Such employees must be assigned to another job or given the opportunity to transfer to a different position.

Respirator Selection

UF will select the appropriate respirator using the following table:

Airborne Concentration of Asbestos or Conditions of Use	Required Respirator
Not in excess of 1 f/cc (10 x PEL)...	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filter.
Not in excess of 5 f/cc (50 x PEL)...	Full face piece air-purifying respirator equipped with high efficiency filter.
Not in excess of 10 f/cc (100 x PEL)...	Any powered air-purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 x PEL)...	Full face piece supplied air respirator operated in pressure demand mode.
Greater than 100 f/cc (1,000 x PEL) or unknown concentration...	Full face piece supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

Note: Respirators assigned for high environmental concentrations may be used at lower concentrations, or when required respirator use is independent of concentration. A high efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

Protective Clothing

General

UF will provide or require the use of protective clothing, such as similar whole-body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos that exceed the TWA and/or excursion limit.

Communication of Hazards

Duties of Building and Facility Owners

Before work subject to this standard is begun, Clemson University Facilities will determine the presence, location, and quantity of ACM and/or PACM at the work site.

Duties of Employers Whose Employees Perform Work Subject to This Standard in or Adjacent to Areas Containing ACM and PACM

All employers who discover ACM and/or PACM on a worksite shall convey information concerning the presence, location and quantity of such newly discovered ACM and/or PACM to the owner and to other employers of employees working at the work site, within 24 hours of the discovery.

Signs

Warning signs that demarcate the regulated area shall be provided and displayed at each location where a regulated area is required to be established. Signs will be posted so that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

Labels need to be affixed to all products containing asbestos and to all containers containing such products, including waste containers.

Employee Information and Training

UF will, at no cost to employees, institute a training program for all employees who are likely to be exposed in excess of a PEL and for all employees who perform Class I through IV asbestos operations, and shall ensure their participation in the program.

Housekeeping

Vacuuming

Where vacuuming methods are selected, HEPA filtered vacuuming equipment will be used.

Waste disposal

Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing consigned for disposal shall be collected and disposed of in a sealed, labeled, impermeable container.

Waste, debris and accompanying dust shall not be dusted or swept dry, or vacuumed without using a HEPA filter and shall be promptly cleaned up and disposed of in leak tight containers.

Medical Surveillance

UF shall institute a medical surveillance program for all employees who for a combined total of 30 or more days per year are engaged in Class I, II and II work or are exposed at or above a permissible exposure limit.

UF will make medical examinations and consultations available to each employee covered in the above paragraph.

Recordkeeping

UF will maintain all records pertaining to asbestos, which may include:

- Exposure Measurements: measurements taken to monitor employee exposure
- Medical Surveillance: for each employee subject to medical surveillance
- Training Records: maintain for all employees (1) year beyond the last date of employment
- Required Notifications: maintaining records of when information concerning the identification, location and quantity of ACM/PACM was received.

Competent Person

UF will designate a competent person, who has the qualifications and authorities for ensuring worker safety and health.

The competent person will perform frequent inspections of buildings, equipment, and materials.

Clemson University Faculties (UF) will provide training to the competent person which will include all aspects of asbestos removal and handling.

References

29 CFR 1910.134, Respiratory Fit Testing

40 CFR 763.92, Training & Periodic Surveillance

29 CFR 1910.20, Recordkeeping