

DUQUESNE UNIVERSITY

ASBESTOS MANAGEMENT PROGRAM

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Prepared by: Environmental Health and Safety Department

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Purpose

The Duquesne University Asbestos Management Plan has been established to meet the requirements of the following regulatory bodies:

- Occupational Safety and Health Administration (OSHA) Asbestos Standards for General Industry 29 CFR 1910.1001 and Construction 29 CFR 1926.1101,
- Environmental Protection Agency (EPA) Title 40 Parts 61 and 763,
- County of Allegheny, Pennsylvania, Ordinance No. 16782,
- Pennsylvania Department of Labor and Industry Asbestos Occupations Accreditation and Certification Act of 1990, P.L. 805, No. 194, amended 12-21-98 P.L. 1258, No. 161 and
- County of Allegheny, Pennsylvania, Ordinance No. 16782, Article XXI Air Pollution Control.

It is the policy of Duquesne University to maintain a safe and healthy work environment for employees, students, contractors and visitors. In recognition of the potential health problems associated with asbestos, and due to the minerals widespread use in buildings constructed prior to 1980, the University is committed to its Asbestos Management Program. The objectives of the program include:

1. Identification of asbestos materials
2. Hazard communication
3. Training
4. Maintenance and repair or removal of Asbestos Containing Materials (ACM) in University facilities.
5. Ensure that employees and others are not exposed to significant levels of asbestos fibers, and that asbestos will be handled in full compliance with all applicable regulations.

Scope

This program applies to all employees who must work around ACM such as Maintenance and Custodial employees, and to Project Managers who will oversee construction and renovation work that may impact asbestos materials.

Duquesne University does not authorize its employees to engage in any asbestos removal activities but instead utilizes licensed and certified outside contractors for these services.

Definitions

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

Asbestos Containing Material (ACM): any material containing more than one percent asbestos.

Clearance Air Monitoring: Air monitoring conducted by an Industrial Hygienist at the conclusion of an asbestos project. The project is considered complete when samples analyzed by phase contrast microscopy result in a concentration of asbestos less than or equal to 0.01 fibers per cubic centimeter of air.

EH&S: Duquesne University Department of Environmental Health and Safety.

Friable Asbestos Containing Material: any material containing more than one percent asbestos, which when dry, may be crumbled, pulverized or reduced to powder by hand pressure.

High Efficiency Particulate Air (HEPA) Filter: a filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

Negative Exposure Assessment (NEA): a demonstration by the employer, which complies with the criteria in OSHA 29 (CFR) 1926.1101 paragraph (f) (2) (iii), that the employee exposure during the monitored operation is expected to be consistently below the PELs.

Non-Friable Asbestos Containing Material: materials in which asbestos is bound in a matrix which cannot, when dry, be crumbled, pulverized or reduced to powder by hand pressure (such as floor tile and asphalt building materials).

Permissible Exposure Limits (PELs):

1. Time Weighted Average (TWA): the employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fibers per cubic centimeter as an eight (8) hour time weighted average.
2. Excursion Limit (EL): the employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air as averaged over a sampling period of thirty (30) minutes.

Regulated Area: means an area established by the employer to distinguish areas where airborne concentrations of asbestos exceed or there is a reasonable possibility that they may exceed the permissible exposure limits.

Responsibilities

Administration:

Duquesne University has the overall responsibility for providing a place of employment free of recognized hazards and unsafe conditions, as well as complying with federal, state, and local standards and regulations.

Environmental Health and Safety:

The development and implementation of proper asbestos management practices at Duquesne University is provided by the Environmental Health & Safety (EH&S) Department. It is the responsibility of EH&S to:

1. Develop and maintain the University's Asbestos Management Program.
2. Develop and implement policies for the proper handling of asbestos.
3. Ensure that regulatory guidelines regarding the maintenance, abatement, and disposal of asbestos are followed.
4. Prepare, submit and maintain records, notifications and manifests required by regulations.
5. Develop project specifications, conduct pre-bid tours, and design, manage and supervise abatement projects.
6. Provide training for employees who work around ACM.
7. Respond to emergency situations involving asbestos at University facilities on a 24-hour basis.
8. Maintain and update asbestos inventories.

Facilities Management:

The maintenance of University buildings and their systems is the responsibility of Facilities Management. Custodial and maintenance personnel are expected to avoid activities that may result in disturbing ACM. It is their responsibility to report the location of damaged or deteriorating ACM to their supervisors for repair or removal. **Under no circumstances should custodial or general maintenance staff attempt to repair, clean up, or remove ACM.**

In addition, it is the responsibility of Facilities Management to:

1. Ensure that University policies and guidelines regarding the handling of asbestos are followed.
2. Ensure that adequate resources are provided to properly maintain ACM.
3. Coordinate abatement actions with EH&S.

Deans, Directors, Department Heads, and Supervisors:

It is the primary responsibility of the principal investigator, instructor or supervisor to ensure that the information and procedures presented in this program are strictly followed by all personnel under their jurisdiction.

Individual Employees:

As with custodial and maintenance personnel, general University staff are expected to avoid activities that might result in damage or disturbance of ACM. It is imperative that persons who occupy areas containing asbestos be prudent in their efforts to follow the guidelines presented in this program.

Individuals have a responsibility to:

1. Comply with this Asbestos Management Program.
2. If required, attend annual Asbestos Awareness training sessions.
3. Recognize ACM and avoiding disturbance of those materials.
4. Follow all prescribed safe work practices.
5. Promptly report areas with damaged ACM to supervisors and to the EH&S department.
6. Take no actions that will result in the disturbance of ACM.
7. Use care when working near asbestos insulated piping and other ACM to avoid contact/damage.

Hazard Identification

Building Surveys:

EH&S will ensure the maintenance of a comprehensive building survey for each building on campus, and a qualified individual holding a valid Pennsylvania Department of Labor and Industry Asbestos Building Inspector/Management Planner Accreditation will conduct building surveys, as necessary..

Project Managers or other facilities Management personnel should consult EH&S records during project planning stages to determine whether or not a completed survey is available prior to any building renovation and/or demolition activity.

Where no survey has been conducted and construction activity is necessary which may impact suspect ACM, it will be the responsibility of the Project Manager to notify EH&S to conduct a survey as a component of the project. This survey may be a comprehensive building survey or a survey limited in scope to the sections of the building where asbestos disturbance may occur.

All surveys conducted will include:

1. Bulk sampling of all homogeneous areas.
2. Floor plans identifying material locations.
3. Tables identifying classes of materials and quantities.
4. Abatement cost estimates (when required).
5. Recommendations regarding conditions of materials.

Each time a significant asbestos abatement project is conducted, EH&S will update the existing survey to reflect the changes in the building conditions. This may include records such as:

1. A letter of addendum to be attached to the building survey indicating amounts and locations where asbestos was removed.
2. A modified building floor plan that identifies areas where asbestos containing materials still remain.

Asbestos building surveys shall be accessible to University Faculty, Staff and Employees during normal business hours through EH&S.

Bulk Sampling:

Bulk samples may be collected at any time there is a question regarding the asbestos content of a building component.

A qualified individual holding a valid Pennsylvania Department of Labor and Industry Asbestos Building Inspector/Management Planner Accreditation must collect bulk samples.

EH&S will collect bulk samples upon request and arrange for laboratory analysis of the material.

In the absence of a laboratory analysis, all suspect ACM as defined by the EPA must be assumed to be ACM.

Results of analyses will be maintained in EH&S files and will be communicated to employees via Deans, Directors, Department Heads, Supervisors, and Project Managers.

Air sampling:

Air samples may be collected as clearance criteria for completing an asbestos abatement project (see Asbestos Abatement section).

Air samples may be collected as environmental or area samples to assess the extent of environmental contamination after a disturbance. Air samples collected for these purposes will be analyzed following NIOSH Method 7400 for phase contrast microscopy. Asbestos abatement project clearance air sampling and analysis will be conducted by an independent consulting company or laboratory that is trained and experienced in the appropriate procedures for collecting and analyzing such air samples and is proficient in the NIOSH Proficiency Analytical Testing (PAT) Program.

A "clean" area will be considered one meeting airborne concentrations of asbestos fibers, in each sample, of less than 0.01 fibers per cubic centimeter of air (f/cc).

Signage

Warning Signs for Regulated Areas:

Warning signs are required for all regulated areas. A regulated area is a zone in which the airborne asbestos fiber levels are likely to exceed the permissible exposure limit (PEL) of 0.1 fiber per cubic centimeter of air as an 8 hour time weighted average, or the excursion limit of 1.0 fibers per cubic centimeter of air as a 30 minute period, as established by OSHA. All active asbestos abatement projects would be classified as regulated areas. A space with significantly damaged ACM might also be restricted and deemed a regulated area.

All regulated area signs must read:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA**

Warning Signs for Mechanical Rooms:

Mechanical rooms and other areas where employees may be expected to routinely enter and to come into contact with ACM must be posted with warning signs. These signs must be placed at every entrance to each such room and be clearly visible so that an entrant would be immediately warned of the materials located in the room. Typically, these signs will be hanging overhead and in the field of vision of an individual opening the door to the space.

The signs will contain the following language:

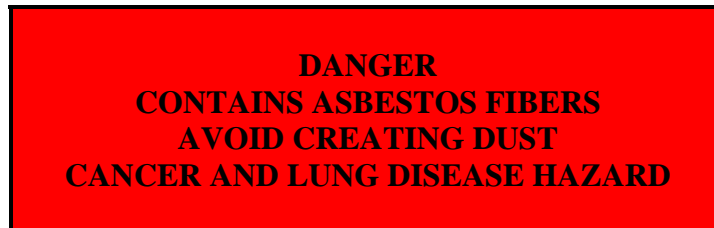
**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY**

Mechanical room signage must be maintained in place. Promptly report missing signage to EH&S. Project Managers conducting abatement and/or construction activities in mechanical rooms must ensure the integrity of these signs and must have these signs updated to reflect any changes in information content subsequent to project activities.

Warning Labels/Mechanical Rooms:

Warning labels will be affixed to representative samples of friable ACM in areas where employees may reasonably be expected to contact or disturb it, whenever feasible. This supplemental notification will be used mainly in mechanical areas and the like, in order to ensure that employees are adequately warned. Labels may also be installed on materials that are accessible and have a history of damage wherever necessary.

Labels will conform to the OSHA Hazard Communication Standard, 29 CFR 1910.1200. They will be printed in large bold letters on a contrasting background and will read:



Training

Training Overview:

Duquesne University will provide employees with the information and training necessary to perform their work safely. Training will be provided at no cost to the employee, during regular working hours, and in an easily understandable format. Training programs will be provided at the time of the initial assignment and repeated at least once yearly. Supervisors will be responsible for notifying the EH&S Department of newly hired employees requiring training. Training will be equivalent in curriculum to the EPA Awareness training program found at 40 CFR 763.92 (a) (1) and will be two hours in length.

Training attendance shall be recorded and maintained on file in the EH&S Office. Employees may review and obtain copies of written training materials and regulatory text from the EH&S Department during normal business hours.

Asbestos Abatement

Asbestos abatement is any activity which has as its principle purpose, the removal, enclosure, or encapsulation of ACM. This would include, but not be limited to, renovation, demolition or repair of facility components that would involve disturbance of thermal system, surfacing, or any miscellaneous ACM.

Prior to conducting an asbestos abatement response action, the following steps are to be implemented:

Building Survey:

Prior to the initiation of any renovation, construction or demolition activity that may impact asbestos or suspect asbestos materials, the University is responsible for conducting an inspection or building survey of the affected portion of the building. Where no survey exists, the Project Manager must contact EH&S to arrange for a survey of the affected area.

Project Design:

Certain asbestos abatement activities are complicated enough in scope to warrant development of a comprehensive project design. These documents can then be used as part of the bid process. Most projects are small enough in scale, and straightforward enough in concept, that no project design is required. The determination to prepare a formal Specification or Scope of Work will be made on a case by case basis after

joint consultation between the Project Manager, abatement contractor and EH&S. Factors which will be taken into consideration in this decision will include:

1. The type of material(s) involved: ranging in a scale of hazard severity from most to least:
 - a. Amosite and sprayed on fire proofing,
 - b. Chrysotile and thermal system components, and
 - c. Asphaltic bound materials like floor tile.
2. The size and total cost of the project.
3. The variety of types of materials involved.
4. The number of locations involved.
5. The need to conduct demolition to access ACM.
6. The complexity of containment and difficulties maintaining negative pressure in the regulated area.
7. The need to work adjacent to occupied areas and the concerns of the occupants

A comprehensive project design is a large detailed document with legal language on performance and laws and very specific work methods. This type of document may be used for complex projects.

A small project with a clear project description, such as "remove 10 linear feet of pipe as identified in the mechanical room by glovebag method" would not need a project design.

Emergency Asbestos Response:

Responses to emergency situations are taken into consideration during asbestos abatement projects.

Emergency situations that may occur should be covered by the Project Manager, abatement contractor and EH&S prior to the project.

In the event that ACM is inadvertently dislodged or damaged, the following procedures should be followed:

1. Restrict entry into the area and post signs to restrict entry into the area.
2. Notify EH&S (x5329 or x4895).
3. Maintain the contaminated area in an unoccupied state.
4. For larger damage (> 3 linear or 3 squared feet), shut off or modify air handling systems to prevent migration of fibers to other areas.
5. EH&S will design a response action, using licensed abatement contractors, in accordance with the severity of the situation.

Waste Disposal and Shipment Record:

Any ACM removed from the University must be wetted, containerized, labeled and disposed of as an asbestos waste. ACM waste must be properly transported to an approved facility, maintaining waste shipment records during transport, and a final copy of the waste shipment record will be forwarded to EH&S within 45 days receipt of waste at the approved facility.

Maintaining Indoor Air Quality During Construction and Renovation Projects:

Project Managers are advised to comply with the EH&S guidelines for maintaining indoor air quality during construction and renovation projects whenever an asbestos abatement project is undertaken.

Project components such as solvent stripping of mastic and premature re-occupancy of these work zones may contribute to occupant reports of poor indoor air quality. A 24-hour ventilation period post abatement, where the area is kept under negative pressure and exhausted to the outdoors, is recommended whenever solvent stripping methods are employed.

Asbestos Project Documents:

The EH&S Department shall maintain all appropriate documentation related to asbestos abatement projects. Documents will be maintained for a minimum of 30 years. Project Managers will ensure that EH&S receives all pertinent documents in a timely fashion.

Contractor Awareness Program

Contractors and sub-contractors employed by the University shall be informed by the departmental Project Manager of the location of all suspect and known ACM in the work area to which they are assigned. Contractors shall, under no circumstances, damage or disturb suspect or known ACM unless they are a licensed Asbestos Abatement Contractor and have been specifically employed to perform asbestos removal.

The University Project Manager shall caution contractors that they shall not proceed with any change in work that requires ACM be disturbed that has not been previously tested. If a change in the scope of work becomes necessary, a new survey of the material to be disturbed must be completed.

It will be the responsibility of the contractor to provide their own asbestos awareness program which shall, at a minimum, include the information contained in this section.