



UNC CHARLOTTE

Environmental Health and Safety

Asbestos Operation and Maintenance Program

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I. Purpose

To provide guidelines for managing asbestos containing building materials (ACBM) and or presumed asbestos containing materials (PACM) to prevent exposure to employees, contractors, students, and campus visitors.

To ensure UNC Charlotte, as an owner/operator of buildings and facilities which may contain asbestos containing material (ACM) and/or presumed asbestos containing material (PACM) complies fully and completely with not only the letter but the spirit of applicable local, state and federal regulations.

II. Scope

This program applies to all buildings and facilities owned or occupied by UNC Charlotte where asbestos containing materials (ACM) or presumed asbestos containing materials (PACM) are present or suspected of being present based on the construction date of the building. In addition, this program applies to all employees, to the extent, if any, to which they are applicable in a given situation.

III. Program Administration

The **Environmental Health and Safety Office** is responsible for development and dissemination of this program. The Environmental Health and Safety Office is also responsible for periodic review this program, conducting job site inspections, containment approval and ensuring compliance.

The **Facilities Management Maintenance and Housekeeping Supervisors** have the responsibility for enforcing the requirements of this program as they apply to their area and verifying the compliance of their employees.

The **Facilities Management Project Managers** (Design Services, Capital Projects) have the responsibility for assuring that all projects meet the State Construction Office Asbestos Abatement Guidelines and Policies . This may include having asbestos building surveys conducted prior to renovation and demolition projects where ACM may be present. Project managers are also responsible for assuring that all applicable asbestos abatement permits are filed with the appropriate agencies. They also are responsible for providing all documents/ records of asbestos surveys and/or abatements to the EH&S as early as feasible for review and update of records management system.

Project managers shall coordinate communication of asbestos abatement activities associated with their projects to project contractors, building occupants, and others as appropriate.

The **Housing and Residence Life (HRL) Maintenance and Housekeeping Supervisors** have the responsibility for enforcing the requirements of this program as they apply to their area and verifying the compliance of their employees.

The **Housing and Residence Life Project Managers** have the responsibility for assuring that all projects meet the State Construction Office Asbestos Abatement Guidelines and Policies . This may include having asbestos building surveys conducted prior to renovation and demolition projects where ACM may be present. Project managers are also

responsible for assuring that all applicable asbestos abatement permits are filed with the appropriate agencies. They also are responsible for providing all documents/ records of asbestos surveys and/or abatements to the EH&S as early as feasible for review and update of records management system.

Project managers shall coordinate communication of asbestos abatement activities associated with their projects to project contractors, building occupants, and others as appropriate.

IV. Identification of Asbestos Containing Materials

Identification of asbestos containing materials shall only be performed by qualified trained professionals according to applicable regulatory requirements. The majority of campus locations are identified with required signage.

Complete and partial building asbestos surveys have been performed for several of the campus buildings. Records of surveys are maintained by Facilities Management (FM) Operations and EH&S and are available upon request.

For new contracted renovation/demolition projects, asbestos surveys of the areas impacted are required and shall be coordinated by the FM Project Manager with the contractor to meet state construction office guidelines.

For small scale maintenance/renovation activities that may impact ACM or PACM conducted by FM employees, existing records shall be reviewed to determine if ACM has been identified. If no records are available, material is to be presumed to contain asbestos. An asbestos survey can be coordinated with EH&S or FM Operations to identify if ACM is present before work is performed.

For small scale emergency maintenance activities where no survey data is available, the material is to be presumed to be ACM.

All records and information pertaining to the identification of ACM/PACM shall be maintained and communicated according to applicable regulatory requirements. Records of asbestos surveys are maintained in a database (ADAM 7) managed by EH&S and FM Operations.

Any employee who discovers ACM/PACM or suspect ACM/PACM not previously identified shall convey information concerning the presence, location and quantity of such material to their supervisor and the EH&S Office or FM Operations as soon as feasible within 24 hours of the discovery.

V. Asbestos Renovation Projects Scale of Work

A. **Non Permit Asbestos Abatements Small Scale Short Duration (SSSD)** asbestos removal operations of regulated ACM or any operation involving the removal of non-regulated ACM may be performed by qualified UNC Charlotte employees or a qualified asbestos abatement contractor without an approved NC State asbestos removal permit, or a Mecklenburg County NESHAP Notification permit provided the following conditions are met.

The removal project must meet the SSSD definition or the material must be non-regulated ACM.

At least 10 working days prior to the start of work, or as soon as feasible the FM Project Manager or the FM Operations Renovation Supervisor shall provide a scope of work to the UNC Charlotte EH&S Office that contains at a minimum:

- Location of work
- Quantity and type of material
- Start date
- Estimated completion date.
- Employees assigned (by name).
- General description of work including removal methods.
- Proposed PPE and containment requirements.
- Posting requirements.

Once the Scope of Work is reviewed, the EH&S Office or Facilities Maintenance Project Manager will coordinate air sampling, or generate a negative exposure assessment in lieu of sampling.

Air Sampling will be performed, if required, and must meet the following criteria:

- At least one 8-hr. TWA and one 30-min. Excursion worker breathing zone sample will be collected and analyzed per job as required by 29CFR1910.1101 or other applicable regulations.
- Prior to area release, at least one clearance sample will be collected and analyzed. The analytical results must meet the clearance criteria before the area is released.

If containment is involved, the containment structure or device must be reviewed by the EH&S Office or the Abatement Supervisor prior to the start of work.

All employees assigned to the project must meet the applicable training requirements and the medical surveillance requirements.

The use of all respiratory protection devices under this procedure by UNC Charlotte employees must follow the guidelines outlined in the UNC Charlotte Respiratory Protection Program.

B. Permit Abatement Operations (Large Scale Projects)

All asbestos work which requires a permit issued by the North Carolina Department of Health, Environment and Natural Resources and Mecklenburg County shall be performed by a qualified asbestos abatement contractor under the guidelines established herein and all applicable regulations. **UNC CHARLOTTE employees are prohibited from conducting asbestos removal.**

All permitted abatement operations shall comply with the requirements of the State Construction Office Asbestos Abatement Guidelines and Policies and applicable regulatory requirements.

Individual permitted abatements will require the FM Project Manager or appropriate contractor to coordinate the completion of the NC State Asbestos Permit Application and Notification for Demolition/Renovation Form and a Mecklenburg County NESHAP Notification of Demolition and Renovation Form and any other applicable permits.

The FM Project Manager or appropriate contractor shall submit the permits to the appropriate agencies according to applicable regulatory requirements.

Revisions to permit applications shall be made in writing according to applicable regulatory requirements by the FM Project Manager or appropriate contractor and a copy forwarded to the EH&S Office for review. The FM Project Manager or appropriate contractor shall disseminate to the appropriate agency according to applicable regulatory requirements.

The FM Project Manager or appropriate contractor shall be responsible for contracting with an accredited Supervising Air Monitor who will be responsible for the following.

Performing ambient, worker and clearance air samples as required by NC State chapter 15A NCAC 19C.0607, 29CFR1926.1101, and any applicable regulatory requirement.

Ensures Ambient Air Sampling results are on site within 24 hours if sample collection and analysis by Phase Contrast Microscopy (PCM) and within 48 hours of sample collection and analysis by Transmission Electron Microscopy (TEM). Results shall be communicated to the EH&S Staff Industrial Hygienist as soon as feasible.

Personal inspection of the abatement area according to applicable regulatory requirements (at least once if the project exceeds 10 working days but is less than 30 working days in length, at least once in the first 30 working days and at least once each 30 working days thereafter for projects that exceed 30 working days)

Perform and document a formal visual inspection prior to clearance air sampling.

Prepare a written, signed, and dated report to UNC Charlotte documenting all site visits and Air Sampling results.

The following shall be maintained on site during removal activities and be immediately available for review.

- A copy of the removal permits and all revisions with the confirmations of receipt.
- Photo identification cards for all accredited personnel. Copies are unacceptable.
- Copy of the abatement design (where required).

All asbestos removal operations which do not require a permit issued by either the NC Department of Environment, Health and Natural Resources, or Mecklenburg County, but do not meet the SSSD project definition, may be performed by a qualified asbestos abatement contractors under the following conditions:

- The contractors shall be accredited by the State of North Carolina 15ANCAC 19C.0602 of the NC Asbestos Rules, Regulations and Procedures and possess a current photo ID card issued by same.

- At least one person on site at all times must be an accredited supervisor.

All large-scale individual Abatement Projects must meet the following stipulations (where required by applicable regulations):

- An Asbestos Abatement design must be prepared by an accredited Abatement Designer.
- An Abatement Project Monitoring Plan must be prepared by the Supervising Air Monitor.
- Both documents must be on site and available during the abatement process.

VI. Housekeeping and Maintenance (FM, HRL)

Maintenance

All ACM / PACM is to be maintained in a condition that does not result in exposure to employees, building occupants, or building visitors.

Supervisors should review work orders to determine if ACM/PACM may be present and has the potential to be disturbed.

Supervisors and/or EH&S shall conduct periodic inspections of identified ACM to determine condition and if repair of material is required to prevent potential exposure.

Report of damaged suspect ACM is to be made to the appropriate FM /HRL group as soon as feasible so repair can be coordinated to prevent release of material and potential exposure.

Only qualified specially trained personnel are approved to perform activities with ACM.

Housekeeping

All surfaces shall be maintained as free as practicable of accumulations of asbestos containing dust and wastes.

All spills and/or sudden releases of ACM/PACM (sometimes referred to as a fiber release episode) shall be reported immediately to the EH&S Office and cleaned up as soon as possible in accordance with directions given by that office.

Surfaces contaminated with ACM/PACM may not be cleaned with compressed air.

HEPA-filtered vacuuming equipment shall be used for all vacuuming operations.

Dry sweeping and dry cleanup methods of ACM/PACM is prohibited.

All waste, scrap, debris, bags, containers, equipment and clothing contaminated with asbestos shall be collected, stored, and disposed of in sealed, impenetrable container.

Asbestos containing flooring material shall not be sanded, burnished, or dry buffed. Stripping of finishes is allowed using only low-abrasion pads at less than 300 rpm.

Dust and debris in any area containing TSI, or surfacing ACM/PACM, or visibly deteriorated ACM shall not be dusted, swept dry, or vacuumed without using a HEPA filtered vacuum.

VII. Training

All employees shall be trained, at a minimum, to a level consistent with applicable regulatory requirements as the requirements pertain to employee specific job descriptions / work activities.

Additional training may be required for employees who have, or may be exposed to airborne concentrations of asbestos at, or above the PEL and/or excursion limits.

Employees who perform housekeeping operations in a facility or building which contains ACM or PACM shall receive asbestos awareness training meeting applicable regulatory requirements.

Employee supervisor shall ensure employees receive appropriate level of asbestos training on annual basis. All documentation shall be maintained by the Department.

All contractors shall refer to UNC Charlotte Contractor Safety Program and State Construction Office requirements.

VIII. Medical Surveillance

Employees who perform, or may perform asbestos removal activities as part of their assigned job duties shall be included in a medical surveillance program that meets applicable regulatory requirements.

All employees who are, or may be exposed to airborne concentrations of asbestos fibers at, or above the 8-hr-TWA and/or excursion limit shall be included in a medical surveillance program that meets applicable regulatory requirements. The employee supervisor shall ensure medical surveillance is completed on annual basis and documentation is maintained.

IX. Records

Medical records shall be retained for the duration of employment plus 30 years.

Training records shall be retained for the duration of employment plus 1 year.

Air sampling records shall be retained for the duration of employment of the people involved plus 30 years and for the duration of building ownership; whichever occurs last.

All documentation in reference to this document shall be retained for the duration of building ownership and transferred to the new owners.

APPENDICIES

APPENDIX I - DEFINITIONS

- A. **ACM (Asbestos Containing Material):** Any material containing more than 1% asbestos.
- B. **Friable:** Material that when dry can be broken, crumbled, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such material becomes damaged to the extent that when dry it can be crushed, pulverized, or reduced to powder by hand pressure.
- C. **HEPA (High Efficiency Particulate Air):** A filter capable of trapping and retaining at least 99.97% of 0.3 micrometer diameter mono-disperse particles.
- D. **Large Scale Individual Abatement Project:** Any single asbestos removal project which involves more than 3,000 square feet (281 square meters), 1,500 linear feet (462 meters), or 656 cubic feet (18 cubic meters) of regulated asbestos-containing material.
- E. **Negative Exposure Assessment:** A demonstration by the employer which complies with 29CFR1926.1101(f)(2)(iii), that employee exposure during an operation is expected to be consistently below the PEL's.
- F. **Non-scheduled Permitted Abatement Project:** An asbestos removal; required by the routine failure of equipment, expected to occur within a given calendar year based on past operating experience but for which an exact date cannot be predicted, when the cumulative amount total of asbestos removed for all projects so described exceeds 35 cubic feet (1 cubic meter), 160 square feet (15 square meters) or 260 linear feet (80 linear meters) of regulated asbestos-containing material.
- G. **PACM (Presumed Asbestos Containing Material):** Thermal system insulation, sprayed on or troweled on surfacing material and debris in work areas in buildings constructed prior to 1980 until such time as that material is proven, by adequate and proper testing, to be non-asbestos containing. Additionally, all 9-inch by 9-inch floor tiles and their associated adhesive shall be considered asbestos containing until tested and proven otherwise.
- H. **PEL (Permissible Exposure Limit):** An exposure limit that is published and enforced by OSHA as a legal standard. The current PEL for asbestos is 0.1 fibers per cubic centimeter (f/cc) as an 8-hour time weighted average (twa) and an excursion limit of 1.0 f/cc as averaged over a sampling period of 30 minutes.
- I. **Permitted Individual Abatement Project:** Any single asbestos removal project which involves more than 35 cubic feet (1 cubic meter), 160 square feet (15 square meters) or 260 linear feet (80 linear meters) of regulated asbestos-containing material.
- J. **Regulated Asbestos Containing Material (RACM):** Asbestos-containing material that is friable or may become friable due to removal or demolition.
- K. **Regulated Area:** An area established by the employer to demarcate areas where asbestos removal is conducted and any adjoining area where debris and waste from such asbestos work accumulates; and any area within which airborne concentrations of asbestos exceed or there is a reasonable possibility they may exceed the permissible exposure limit (PEL).

- L. **Small Scale, Short Duration (SSSD) Abatement Project:** The removal of small quantities of ACM only if required in the performance of another maintenance activity not intended as asbestos abatement; removal of asbestos-containing TSI not to exceed amounts greater than those which can be contained in a single glove bag; minor repairs to damaged TSI which do not require removal; repairs to a piece of asbestos-containing wallboard; and repairs involving encapsulation, enclosure or removal, to small amounts of friable ACM only if required in the performance of an emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure.

- M. **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).

- N. **TSI (Thermal System Insulation):** Material applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.