Asbestos Operations and Management Plan

Asbestos

CHrysotile
Amosite
Crocidolite
Tremolite
Actinolite
Anthophyllite
UIC ASBESTOS MANAGEMENT PROGRAM

Subject: Asbestos Management Program

Approved by: Richard Anderson		Effective Date: 04/09/2010
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Environmental Health
and Safety Office
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**Objectives:**

The University of Illinois Chicago (UIC) will develop, implement and maintain a program for the management of Asbestos Containing Material (ACM) to:

- Identify, assess, and periodically monitor the condition of ACM
- Maintain ACM in good condition
- Minimize exposure to students, staff and visitors
- Manage ACM in compliance with applicable regulations
- Ensure abatement projects are designed & conducted properly
- Remove ACM on a planned and ongoing basis.
- Ensure renovation, demolition, and all construction projects do not start until the possible presence of asbestos containing materials has been discovered and all necessary steps have been taken to prevent release of fibers.
- Ensure proper cleanup of releases of asbestos fibers
- Prevent further release of fibers from damaged asbestos

The Program serves as the UIC Operation and Maintenance Manual. The purpose is to set a course of action to safeguard the health of employees, students, and visitors by maintaining ACM in a stable condition.

**Authority:**

The management of asbestos on campus is regulated by the following compliance standards.

- OSHA 29 CFR 1910.120 – Hazard Communications
- OSHA 29 CFR 1926.1101: Construction Standard - Asbestos
- EPA 40 CFR 763: Asbestos Hazard Emergency Response Act
- Asbestos Abatement Act 105 ILCS 105
- Commercial and Public Building Asbestos Act 225 ILCS 207
- Asbestos Abatement for Public and Private Schools and Commercial and Public Buildings in Illinois 77ILL. Adm. Code 855

OSHA – Occupational Safety & Health Administration; DOT – Department of Transportation; DLWD – Department of Labor & Workforce Development; DEP – Department of Environmental Protection; DPH – Department of Public Health; EPA – Environmental Protection Agency.
University Mandate

It is the mandate of the University of Illinois at Chicago’s Office of the Vice Chancellor of Administrative Services, and the Director of Environmental Health and Safety Office, that no renovation or demolition activity will occur until the project has been reviewed for the impact to asbestos.

Definitions:

**Abatement** - An approved method for handling asbestos containing materials (i.e. removal, encapsulation, enclosure)

**ACM** – Asbestos Containing Material.

**ACBM** - Asbestos Containing Building Material.

**AHERA** - AHERA is the “Asbestos Hazard Emergency Response Act.” AHERA is the statute that mandated EPA’s “Asbestos in Schools Rule” requiring the inspection of school buildings for ACBM, followed by the implementation of the appropriate response actions.

**Class I Asbestos Work** - Class I asbestos work means activities involving the removal of asbestos-containing thermal insulation and surfacing materials

**Class II Asbestos Work** - Class II asbestos work means the removal of asbestos-containing materials that are not thermal insulation and surfacing materials. This includes, but is not limited to, the removal of asbestos containing wallboard, floor tile, sheeting, roofing and siding shingles, and construction mastics.

**Class III Asbestos Work** - Class III asbestos work means repair and maintenance operations pertaining to asbestos containing materials, including thermal insulation and surfacing asbestos containing materials and Presumed asbestos containing materials is likely to be disturbed.

**Friable** - Friable means “crumbly.” Asbestos containing materials that, when dry, can be crumbled or pulverized by hand pressure are called friable.

**NESHAP** - National Emission Standards for Hazardous Air Pollutants. The NESHAP is an EPA regulation designed to keep asbestos out of the air.

**PACM** - Possible Asbestos-Containing Material.

**PEL** - Permissible Exposure Limit The PEL is OSHA’s legal limit on how much asbestos a worker may be safely exposed to in an eight-hour workday. The PEL is currently 0.1 fibers per cubic centimeter over an 8-hour day.
Regulated Area- A regulated area is an area where airborne concentrations of asbestos exceed the OSHA PEL or there is a reasonable possibility the concentration may exceed the asbestos PEL.

STEL- Short Term Exposure Limit. The STEL is OSHA’s legal limit on how much asbestos a worker may be safely exposed to in a thirty-minute period. The STEL is 1.0 fibers per cubic centimeter over a thirty minute period.

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Introduction

Asbestos containing materials (ACM) are prevalent throughout UIC buildings. Asbestos containing materials were used widely as construction and insulating materials in buildings from the 1940s through the late 1970s because of the excellent fireproofing abilities of asbestos. Due to the significant amount of asbestos within UIC buildings, it is imperative that a well documented Asbestos Management Program be used to identify ACM in order to notify building occupants of its presence, location, what steps are to be taken to minimize exposure and what procedures are used to minimize disturbance.

Asbestos containing material may be found in fireproofing, acoustical and decorative ceiling tiles, thermal pipes, tank insulation, and other mechanical insulation materials. ACBM may also be found in such materials as wall plasters, glues and mastics, roof felts, insulating chemical hoods, lab countertops, oven gaskets, and many other items.

Before the mid 1970s, asbestos was widely used in the construction of public buildings. According to the American Federation of Government Employees, 16% of federally owned or leased buildings contain some application of asbestos, and 25% of federal buildings contain asbestos in pipe and boiler insulation.

Health Effects of Asbestos:

Asbestos exposure can cause many serious health problems. Asbestos exposure can result in asbestosis, (an emphysema-like condition), lung cancer, and mesothelioma. This is based on well-documented research on human exposures to asbestos. People were found to be dying of mesothelioma at abnormally high rates whose only contact with asbestos was that they lived in the same house as an asbestos worker.

No one really knows for sure how hazardous low levels of asbestos are in the air. OSHA has found that significant risk exist at a permissible exposure limit of 0.1 fiber/cc (PEL). It did not set a lower PEL, however because lower levels of asbestos cannot be reliably measured under workplace conditions. There is no evidence in occupational studies to show there is a threshold level below which there are no adverse effects to breathing asbestos. The type of asbestos has little bearing on the risk. All types of asbestos can cause lung cancer, the most common type of cancer associated with asbestos exposure.
Factors which influence asbestos fiber release are: its condition (friability), location, exposed surface area, and asbestos content.

Additional background information on asbestos and the health effects related to asbestos exposure is available through the Environmental Health and Safety Office (EHSO). Interested persons may request this information by contacting EHSO at (312) 413-3704.

**Applicability:**

This Program is applicable to all UIC departments and UIC owned properties. This program applies to all employees of the University of Illinois at Chicago as well as contracted employees.

The program is implemented by the Environmental Health and Safety Office (EHSO). The program largely impacts the Office for Capital Programs (OCP), UIC contractors, Facilities Management (FM), the Small Projects Group, and the Utilities Department. Each school and administrative department is responsible for management of asbestos containing materials in accordance with this Asbestos Management Program.

**Asbestos Management at UIC**

In order to ensure the safety of employees and general public from the release of asbestos fibers, UIC has taken a collaborative approach to building a “best practice” safety culture. We advocate working as a team with Facilities Management (FM), Utilities, and the Office of Capitol Programs (OCP) to ensure asbestos work is done safely.

We promote working collaboratively with all stakeholders and the wider University community in the safe design of new buildings and refurbishment and maintenance of existing buildings. This is reflected in our asbestos awareness training and asbestos management plan which promotes a proactive safety culture championed by leadership, supported by the safety framework, and integrated into planning throughout projects.

While asbestos is a serious health and safety concern, currently available data and risk assessments indicate that properly managed, undamaged asbestos containing materials in buildings do not present a significant health risk to building occupants. ACM that is in good condition should not present a danger to students, staff, and faculty and may be left in place. Therefore, the UIC asbestos program focuses on providing comprehensive and effective management rather than asbestos removal.

A key element of an effective asbestos management program is periodic surveillance of asbestos to make sure it is not damaged. Periodic surveillance allows for an evaluation of the condition of the asbestos to determine if deterioration has occurred. The periodic surveillance of known locations of friable ACM will be performed by EHSO and scheduled as needed.
When previous sampling has not been conducted and presumed ACM is found to be damaged, the building material will be sampled and analyzed in an accredited laboratory. The EHSO Asbestos Coordinator shall update EHSO building records to delineate the location of asbestos containing materials. The information gathered during the periodic surveillance inspections will be used to develop a prioritized list of presumed ACM that is damaged or deteriorated and shall be used for prioritizing future surveys of buildings. If necessary, repairs and minor abatement shall be performed at the first available opportunity to reduce or eliminate the hazard to building occupants.

**How is Damaged Asbestos Handled?**

For damaged ACM that presents a potential for exposure, there are several courses of action. Abatement refers to removal, repair, encapsulation, or enclosure:

I. **Removal** - Removal is the method used most to control fiber release from asbestos materials in buildings. Removal means taking the asbestos off of whatever surface it is on. The asbestos is then bagged and sealed and taken to an asbestos landfill.

II. **Repair** - Repair is a control method that can be used if there are small amounts of damage to asbestos materials. For example, asbestos pipe insulation can have a canvas covering that can become torn. The tear exposes the asbestos fibers that then can be released into the air. By simply wrapping new canvas around the tear and repainting with mastic, the area is repaired.

III. **Encapsulation** - Encapsulation is a method of asbestos abatement where asbestos containing materials are sprayed with a paint-like coating.

IV. **Enclosure** - Enclosure is a method to build an airtight barrier around the asbestos material.

V. **Isolation and Security** - If removal, repair, encapsulation, and enclosure are not possible, access to the areas where damaged asbestos is located will be limited to employees who complete the required asbestos training and have the appropriate respiratory protection to enter these areas.

**Roles and Responsibilities:**

The responsibilities defined below are required to implement an effective campus asbestos management program which provides a safe environment for building occupants, identifies unsafe asbestos conditions, and provides training and protection to employees working with asbestos.
Environmental, Health, and Safety Office (EHSO)

The Environmental Health and Safety Office (EHSO) provides a centralized resource for technical and professional services in all aspects of asbestos management. EHSO is responsible for overseeing all University asbestos abatement activities and represents the University on matters of regulatory compliance. EHSO provides technical oversight, specifications, and recommends procedures related to asbestos. ESHO’s specific responsibilities for asbestos are discussed in more detail below:

Asbestos Records

All asbestos records are centralized in the EHSO office and in the EHSO database with the exception of employee medical surveillance records which are maintained in Health Services. Asbestos Surveys completed in 1989 and 1999, commonly known as the “redbooks” are housed in EHSO. Limited asbestos surveys were done from 1989 to present. EHSO is responsible for maintaining an inventory of known locations of ACM in campus buildings. The location of known asbestos containing materials on campus may be found in the EHSO database. In addition to the 1989 surveys, EHSO has records of some abatements and asbestos sampling results that have occurred throughout the years. Access to these files can be obtained by contacting the EHSO Asbestos Compliance Officer at 312-413-3704. EHSO will update and maintain the database based upon records received. While the database is extensive, it is not exhaustive.

Regulatory Agency Visits

EHSO will serve as the liaison with applicable regulatory agencies. If an unannounced (or announced) inspection takes place, contact EHSO immediately. Regulators should be escorted to a reception area until EHSO arrives on-site.

Regulatory Oversight

EHSO aims to ensure that bulk sampling, air sampling and monitoring are performed in accordance with the regulations. EHSO is charged with maintaining knowledge of the asbestos regulations and how to apply these regulations to UIC. EHSO recommends actions to members of the UIC community that should be taken to ensure compliance with this Plan. EHSO provides technical assistance in planning asbestos projects and developing and implementing site monitoring activities before, during, and after abatement operations.

Surveillance Inspections

EHSO will coordinate and or perform surveillance inspections on a periodic basis. The surveillance performed by EHSO will consist of walking through a building to visually inspect the condition of asbestos containing building material (ACBM). Any changes in the condition of asbestos containing materials is recorded in the EHSO asbestos database whenever discovered.
Employee Inquiries

This may include handling inquiries and or investigations generated from employees on potential exposure in the workplace or classroom. EHSO will perform necessary sampling of suspect ACM in response to employee inquiries.

Training

EHSO is responsible for providing training to project managers who manage asbestos projects and supervisors and employees who work in areas where asbestos may be disturbed, such as Building Services and Maintenance employees.

Project Manager Responsibilities

Asbestos Building Occupant Notification

Project Managers are responsible for effective hazard communication relating to an asbestos abatement project. The asbestos building occupant notification shall be provided by project managers and provide building occupants with a ten work day warning prior to the start date of any abatement. The notification must be done in writing by email to building occupants and those in charge of the proposed building (i.e. the building manager should be notified). A brief project description, including abatement locations, contractor information, occupant instructions, and start dates should be included in notification. A copy of such notification shall be sent to asbestos@uic.edu for record keeping.

EHSO Notification

Project Managers in Capital Projects and Small Projects managing projects which have the potential to disturb asbestos must notify EHSO before proceeding with the start of any project. Notification must be made by email to the UIC Asbestos Compliance Officer at asbestos@uic.edu. The EHSO Asbestos Compliance Officer will reply concurring that the project will not disturb asbestos or ask for additional information if the initial records are not adequate. The purpose of the notification to EHSO is to ensure asbestos is not disturbed or in the case of demolitions, removals or other works where disturbance is necessary, that the work is undertaken under the required controlled conditions.

Air Monitoring

An Illinois Certified Asbestos Project Monitor who is not an employee of the Asbestos Abatement contractor or an employee of UIC must be hired to supervise the abatement project, conduct visual inspections, and perform clearance air monitoring as required by State regulations.
The services of a Project Monitor must be employed for all projects except those abatements involving small-scale removal, conducted *solely by the glove bag method*, and performed in non-occupied areas such as mechanical rooms. Larger scale abatements, involving multiple glove bag set-ups, require project monitoring. EHSO will monitor projects as a secondary process of ensuring regulation compliance.

**Waste Disposal**

EPA standards require that waste be sent to an appropriate waste disposal site and that waste shipment records and a manifest be maintained. The Project Manager must forward all asbestos close out documents which should include waste manifests to the EHSO Asbestos Compliance Officer.

**Contractor Notification**

Contractors whose work may involve disturbing or coming into contact with asbestos-containing materials must be notified of the location of asbestos and condition of asbestos containing material that may be encountered before any work is started. Project Managers should contact EHSO for the asbestos records for any area where a contractor will be performing work if they do not already have these records.

**Regulatory Agency Notification**

Project Managers are responsible for ensuring that asbestos contractors notify the appropriate regulatory agencies. The NESHAP regulation states that either the owner of the building or operator of the demolition or renovation operation can submit the 10 day notification. Usually, the two parties decide together who will notify. If neither provide adequate notice, EPA can hold either or both parties liable. The Chicago Department of Public Health (CDPH) requires a Demolition Notice of Intent (NOI) ten working days prior to the start of any non-emergency demolition of any building. The notice is required “as soon as possible” for emergency renovations, no later than the following work day. Failure to submit your notification forms at least 10 days prior to the start of your demolition or abatement project is a violation of the city of Chicago Environmental Code, Section 11-4-2170 (a) and (e)(3).

**Record Management**

Project Managers must ensure all closeout documents have been returned to UIC within 30 days of the abatement project completion. Transmit records of asbestos sampling/surveys and asbestos closeout documents to the UIC Asbestos Compliance Officer at asbestos@uic.edu for evaluation and retention.
Include Asbestos in Project Planning

Ensure project timeline takes into account asbestos testing, abatement, and notification filing requirements. When asbestos containing insulation is removed, Project Managers should develop re-insulation specifications as needed.

On-Site Monitoring

Occasional on-site monitoring of asbestos projects should be conducted by Project Managers as often as feasible during the project. Facilities Management, Utilities, and the Office of Capital Programs (OCP) in collaboration with EHSO is responsible for monitoring contractor safety management as a part of project life-cycle.

The Trades

1. Physical Plant trade workers must report any changes in the condition of known ACM or PACM to EHSO.
2. Notify contractors of the location of asbestos containing materials and potential asbestos containing material. Contractors should be advised to avoid disturbance of these materials.
3. Report incidents involving asbestos (ie. damaged material, potential exposures) to EHSO promptly.

ACC – Networking

1. Take measures to ensure project timeline takes into account asbestos testing, abatement, and notification filing requirements.
2. Notify contractors of the location of asbestos containing materials and potential asbestos containing material. Contractors should be advised to avoid disturbance of these materials.
3. Report incidents involving asbestos (ie. damaged material, potential exposures) to EHSO promptly.

Employees & Supervisors Responsibilities

1. Recognize ACM and PACM and avoid disturbance of these materials.
2. Report incidents involving asbestos (ie. damaged material, potential exposures) to EHSO promptly.
3. Contact EHSO if any debris is suspected to be asbestos and noted during any employee’s normal course of work.
Asbestos Signage

Regulated Areas

Periodically, the Environmental Health and Safety Office may determine that an area is unsafe due to asbestos contamination when there is known friable asbestos present. These areas will become regulated areas and access to the space will be restricted through the use of signage. These areas will remain locked until a response action has been coordinated to abate the hazard present. Employees seeking entry into restricted spaces must request approval from the Environmental Health and Safety Office. Access will be granted only to those employees whose level of training and use of personal protective equipment qualify them as individuals authorized to deal with the hazards present.

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 will read:

Caution Signs

Mechanical rooms and other areas where employees may be expected to routinely enter, and to come into contact with ACM or PACM will be posted with caution signs. These signs must be placed at every entrance, and be clearly visible so that an entrant would be immediately warned of the materials located or assumed to be located in the area. The caution sign are not to be interpreted to mean friable asbestos exists. The caution signs only meant to caution of the possible existence of friable asbestos. A picture of the caution signs posted at UIC is below.
Asbestos Communication:

<table>
<thead>
<tr>
<th>Policies and Procedures</th>
<th>EHSO will inform managers of policies, procedures and guidelines via email and information will be posted on the EHSO website. Managers are then responsible to inform employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Database</td>
<td>EHSO will maintain the asbestos database of the locations of asbestos containing materials on campus. Project Managers should contact EHSO to obtain the location of asbestos containing materials in the preliminary project planning phase if they do not have this information.</td>
</tr>
<tr>
<td>Notifications to Regulatory Agencies</td>
<td>The Project Manager is responsible for ensuring the contractor sends the appropriate notifications to IL Environmental Protection Agency or Illinois Department of Public Health and provide a copy to the EHSO Office</td>
</tr>
<tr>
<td>Asbestos Abatement Notifications</td>
<td>The project manager will be responsible for alerting building occupants via email of upcoming projects. EHSO and Campus Police should be copied.</td>
</tr>
<tr>
<td>Signage</td>
<td>EHSO has placed signage in areas of the campus which contain asbestos materials. Employees must alert EHSO if they notice that signage has been damaged and is no longer in place.</td>
</tr>
<tr>
<td>Emergencies</td>
<td>Any individual who notes an asbestos related emergency must contact EHSO at 6-SAFE (6-7233) and or Campus Police at 5-5555 who will alert EHSO.</td>
</tr>
</tbody>
</table>
Contacts:

EHSO: Jerome Sides, Asbestos Compliance Officer
Office Phone x3-3704
Email: asbestos@uic.edu

UIC Police: In an emergency, dial “5555” from any campus phone

Asbestos Records:

Records Retention

Most required asbestos records have record retention requirements stipulated in the regulations. Employee exposure assessment records must be maintained for thirty (30) years by the employer for each employee exposed to asbestos. Training records must be maintained for one (1) year beyond employment. In addition, training materials, examinations, and other pertinent training information must be retained three years. Respirator fit test results must be maintained until the next test is administered. Written records of the identification, location, and quantity of ACM/PACM maintained by the building owner for the duration of ownership and transferred to successive owners. Lastly, air sampling clearance results should be maintained for three years. Medical surveillance records must be retained for the duration of employment plus thirty years.

Training:

Asbestos Awareness Training

This course is for maintenance and custodial staff involved in minor maintenance and cleaning tasks where ACM may be accidentally disturbed. The goal of the annual training program is to inform employees about the potential hazards associated with the presence of Asbestos Containing Material (ACM) in a building. The major objectives of the training program are to provide employees with the ability to identify the presence and location of ACM; recognize potentially hazardous situations involving ACM; avoid and minimize disturbance of ACM through proper methods and work practices; contact appropriate personnel and follow established procedures when asbestos related concerns or emergencies arise.

How Often:

Training is required on an annual basis.
Who Will Provide the Training:

The EHSO Office will coordinate trainings on an annual basis. Units will be contacted by the EHSO compliance officer to set up dates, times, and locations for training each year. Dates and times must be mutually agreed upon by EHSO and the units involved. Training locations shall be chosen by EHSO unless the unit is willing to assume the cost for an alternative location. The training location must be mutually agreeable.

New Employees

Supervisors should inform EHSO of new employees who are hired and have “missed” the annual training. All materials for training are available in the EHSO Office. Employees who miss initial training for any unit shall be trained by Supervisor who will be supplied with Asbestos Awareness training handouts from EHSO to perform training.

Project Manager Awareness Training

All Project Managers involved in construction projects should attend a training session given by EHSO which discusses important regulatory information and UIC-specific procedures for construction, demolition and O&M projects. This includes Project Managers in Utilities, Small Projects, and Capital Programs.

Asbestos Operations and Maintenance Training

Only licensed contractors can remove or disturb more than 3 linear feet of asbestos. If the job involves emergency maintenance, removal of a small section of damaged thermal system insulation, or the installation of electrical conduit in an air plenum containing ACM or ACM debris, it will require those performing such task to have completed certification for 14 hours of special O&M training along with the 2 hour asbestos awareness training previously mentioned in this document for a total of 16 hours of training.

Respirator Training:

Employees entering regulated areas or removing/disturbing greater than one square meter of friable ACM must receive respirator training in addition to Asbestos Operations and Maintenance Training. The use of any respiratory equipment must be pre-approved by EHSO. Employees approved for respirator usage shall be trained in the need, use, sanitary care, and limitations of such respiratory equipment. The use of a respirator shall also be contingent upon passing a medical evaluation performed by UIC Health Services and be fit-tested for a respirator annually. University personnel who are considering the use of respiratory equipment should contact EHSO at 312 413-7411.

Hazard Communication
All applicable personnel are informed of the locations of asbestos and the presence of asbestos hazards on campus through above stated training or notifications for an abatement project. Information of locations may also be obtained from the EHSO Asbestos Compliance Officer.

UIC will hire outside abatement contractors and consultants to perform asbestos abatement and other activities which require special licenses, certifications, and that may result in exposure to asbestos above the OSHA permissible exposure limit (PEL) and short-term exposure limit (STEL).

**Asbestos Emergency Response Procedures:**

Notify EHSO immediately of any of the following:
- Damaged asbestos,
- Release of fibers,
- Accidental damage due to roof leaks, broken water lines, etc.,
- Other asbestos related event of concern to students, faculty, staff or visitors.

When leaving an area where asbestos is damaged and or fibers are released, secure the area to prevent any potential exposure or further releases to the environment. Isolate the area, shut off ventilation systems, and notify other affected personnel. If maintenance workers must enter the area, appropriate PPE must be donned (respirators and protective clothing). If work is needed prior to emergency response personnel coming on site, ensure that the asbestos is wetted. Keep track of all associated events and personnel involved. EHSO will coordinate on-site response and determine if notification to the regulators is needed.

**Procedures for Working in Areas with Known or Presumed Asbestos for Maintenance Employees**

**Guidelines for Safely Working in Areas with Asbestos:***

- Do not remove, cut, drill, sand, grind, or otherwise disturb any material that is presumed or known to contain asbestos.
- Do not go above ceilings, behind walls, or into building spaces such as attics and crawlspace unless these areas have been inspected and cleared by EHSO and/or previous asbestos inspections.
- Do not install screws, pins, nails, or hangers into ceiling or wall plaster presumed of containing asbestos.
- Be careful not to damage walls, ceilings, or floors when moving furniture or equipment.
- Do not brush, sweep, or vacuum textured ceiling plaster or plaster debris.
Procedures if Damaged Asbestos is Found:

If in the course of your work you unexpectedly disturb or discover damaged asbestos-containing material or damaged material you suspect is asbestos, the following procedures should be implemented immediately to minimize the exposure of individuals to airborne asbestos. Do not ever ignore any damaged material you suspect is asbestos. Remember, asbestos is a carcinogen.

1. Immediately stop all activities which may disturb the friable asbestos material.
2. If your work clothing or equipment have been contaminated with asbestos, do not leave the immediate work area until appropriate decontamination has been carried out.
3. Notify your supervisor of the damaged presumed asbestos containing material.
4. If you are not contaminated, leave the area, and do not resume any work in the area until advised to do so by your supervisor.
5. If your supervisor has received previous written verification from EHSO that the presumed material is not ACM, the repair and/or cleanup may be undertaken without notification to EHSO.
6. If the supervisor has any doubts about the asbestos status of any damaged materials, EHSO should be contacted immediately at 312 996-7411. If there is no response at this extension, call the EHSO Safety Phone at 312 996-7233.
7. The supervisor or Project Manager must have the ventilation system to and from the affected area shut down.
8. The Supervisor or Project Manager in collaboration with the Asbestos Coordinator will review the asbestos records to determine if the material was sampled previously. If sampling results do not exist, EHSO will test the material prior to any repair or cleanup taking place.
9. The EHSO Office will investigate the incident to determine the cause, employees who were involved in the incident, and identify control measures to prevent recurrence.
10. Should the results be positive for asbestos, the supervisor or Project Manager, in consultation with the Asbestos Coordinator, will arrange for appropriate asbestos remediation and cleanup.
11. EHSO will give authorization for return to work when safe to do so.

Emergency Asbestos Repairs/Removal:

The need to conduct asbestos removal on an emergency basis may arise from time to time. Examples of such unscheduled emergency asbestos work include:

- The clean up of fallen or damaged asbestos-containing ceiling tiles as a result of a broken sprinkler line.
- The emergency repair of any mechanical service lines (piping) or vessels currently insulated with asbestos.
- Entry into ceiling space (air plenum) to complete emergency repairs in any building which contain sprayed asbestos.

In such instances, should emergency asbestos repair be required, the procedure shall require special precautions which requires an asbestos contractor be procured so as to minimize the generation of airborne fibers and to protect employees. All presumed asbestos material must be treated as asbestos.

**Procedures for Working in Areas with Known or Presumed Asbestos for Lab and Office Employees**

**Guidelines for Safely Working in Areas with Asbestos:**

Asbestos is safe to have in your office or lab as long as it is not damaged. When asbestos is damaged, it releases harmful fibers into the air. Take the steps below to ensure you do not damage asbestos.

- Do not remove, cut, drill, sand, grind, or otherwise disturb any material that is presumed or known to contain asbestos.
- Do not install screws, pins, nails, or hangers into ceiling or wall plaster presumed of containing asbestos.
- Be careful not to damage walls, ceilings, or floors when moving furniture or equipment.
- Do not brush, sweep, or vacuum textured ceiling plaster or plaster debris.

**Procedure if Damaged Asbestos is Found:**

If you unexpectedly disturb or discover damaged known or presumed asbestos-containing material in your office or lab, the following procedures should be implemented immediately to minimize the exposure of individuals to airborne asbestos. Do not ignore any damaged material you suspect is asbestos. Remember, asbestos is a carcinogen.

1. **DO NOT ATTEMPT TO CLEAN THE MATERIAL UP YOURSELF OR MAKE CONTACT WITH THE MATERIAL IN ANY WAY.**
2. EHSO should be contacted immediately at 312 996-7411. If there is no response at this extension, use the EHSO Safety Phone at 312 996-7233.
3. EHSO will review the asbestos records to determine if the material was sampled previously. If sampling results do not exist, EHSO will test or have tested the material prior to any repair or cleanup taking place.
4. The EHSO Office will investigate the incident to determine the cause, employees who were involved in the incident, and identify control measures to prevent recurrence.
5. Should the results be positive, the PI or Chemical Hygiene Officer, in consultation with the Asbestos Coordinator, will arrange for appropriate asbestos remediation and cleanup.

If You Think You Have Been Overexposed to Asbestos:

Any employee who believes they have experienced an asbestos exposure shall report to University Health Service. The employee should complete an Accident/Incident report and provide a copy to their supervisor and the EHSO office. Provide the health care provider as much detail as possible regarding the duration and circumstances of the exposure. University Health Service should contact EHSO who will investigate the asbestos content of the material.

Requirements for UIC Contractors

Asbestos removal is a complicated task that, if done improperly, can leave higher asbestos air levels in the buildings than existed before the work started. All employees of contracted firms who perform asbestos-related activities shall conform fully to the requirements of this Asbestos Management Program.

Any person(s) performing an asbestos cleanup/abatement operation must receive the appropriate training and medical evaluation according to all applicable federal, state, and municipal laws. These guidelines are intended to provide the University of Illinois at Chicago and its Contractors with procedures and information that should facilitate the successful completion of asbestos abatement projects.

It should be noted that this asbestos management program assumes that a proper asbestos survey, in accordance with industry standards, will be completed prior to planning the abatement project.

Regulatory References:

1. All work shall be performed in compliance with current federal, state, and municipal codes and regulations, including but not limited to:
   o U.S. EPA Asbestos Model Accreditation Plan (Training of Asbestos Workers), Title 40, CFR 736.92(a)(2)
   o U.S. EPA Worker Protection Rule, Title 40 CFR 763 Subpart G
   o Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, Title 29, CFR, Section 1926.1101
2. Any conflicts or overlap of these requirements shall be governed by the more stringent regulation or standard.

3. The University of Illinois at Chicago shall not be responsible for acts or omissions of the contractor, its subcontractors, or any of its agents or employees performing any of the ACM abatement related tasks.

Guidelines for Pre-Abatement Planning:

1. The work area shall be clearly defined by the project documents. All areas and conditions included as part of the work area shall be identified and shall be included in the pre-bid project walk-through.

2. Areas with known ACM shall be identified at the pre-bid walk-through and shall be clearly identified on project drawings. Any presumed ACM not previously identified shall be sampled by the contractor and any necessary modifications shall be made to the scope of work for the project at that time.

3. The contractor shall be responsible for verification of all asbestos quantity measurements on project drawings due to the fact that quantities indicated may be estimates.

4. The contractor shall be required to establish barricades, post warning signs, and coordinate with the EHSO Asbestos Coordinator to plan and schedule work activities to minimize the impact of asbestos abatement on any areas that may remain occupied during the project.

5. The contractor shall seal the work area, ensure that critical barriers are placed over all openings to the regulated area, ensure the heating, ventilation and air-conditioning (HVAC) system in the work area is turned off through the final clearance phase of the project, ensure that all steam and hot pipes are cooled prior to set up and work and neutralize all mechanical hazards (such as moving belts or shafts) in the work area.

Summary of General Provisions:

1. The practices specified in this document shall apply to all asbestos abatement projects performed at UIC facilities.

2. For larger ACM abatement projects, the UIC Project Manager shall retain an accredited third party environmental consultant to prepare project drawings and specifications and to oversee the abatement work through completion. This
consultant shall prepare bid documents and shall function as the UIC representative for the project.

3. UIC shall reserve the right to accept or reject any or all bids submitted.

4. All appropriate campus disciplines shall be involved in ACM abatement project pre-planning including Physical Plant, Environmental Health & Safety Office, the Office of Capital Projects, Facilities Management, and the affected department(s).

**Abatement Contractors Responsibilities:**

1. The contractor shall furnish all labor, materials, facilities, equipment, services, insurance, and incidentals necessary to remove all specified asbestos within the work area as indicated in the project specifications and on project drawings provided by the UIC Project Manager or their representative.

2. The contractor shall be responsible for restoring the work area and auxiliary areas utilized during the asbestos abatement project to conditions equal to or better than original.

3. Contractors shall be required to complete a pre-bid walk-through of the project area before being allowed to bid on the project.

4. The contractor shall comply with industry standards and use accepted materials and products throughout all phases of the project.

The contractor shall complete all appropriate asbestos project notifications to regulatory agencies and shall pay all notification fees. The EHSO Asbestos Coordinator must receive a copy of all notifications made to regulatory agencies as discussed below.

**Required Submittals to EHSO:**

**Pre-Work Submittals:**

The UIC EHSO Office requires abatement contractors to submit all of the following documents to the EHSO Asbestos Coordinator via email in one PDF document **prior** to beginning work on any asbestos abatement work:

1. A detailed plan describing the procedures proposed for use in complying with the requirements of the project specifications. The plan shall include the following: the location and layout of decontamination areas, the sequencing of asbestos work and methods to be used to assure the safety of building occupants, workers, and visitors to the site, methods for controlling visible emissions in the work area, and methods for managing asbestos debris.
**Project Closeout Submittals:**

UIC requires abatement contractors to submit all of the following upon completion of the ACM abatement project to the EHSO Asbestos Coordinator via email in one pdf document:

1. Copies of daily project sign-in/sign-out logs and daily project log forms (including descriptions of unique or unusual events during the project).
2. A copy of final clearance certification (see "AIR SAMPLING AND FINAL CLEANRANCE CERTIFICATION” section of this chapter).
3. A copy of the Completion Certification to the Illinois EPA.
4. Documentation of timely notification to all applicable agencies and documentation of project fees paid.
5. Certificates of accreditation (training) for each employee of the contractor who will be on site.
6. A listing of authorized personnel to be granted access to work area.
7. Documentation of contractor's notifications to appropriate campus departments and building occupants (Physical Plant, Environmental Health and Safety Office, Facilities Management, etc.) regarding the abatement project schedule.
8. Material Safety Data Sheets (MSDSs) for all chemicals that will be used or that will be present at the job site.
9. Copies of waste manifests, disposal documents and any other relevant records.
10. Documentation certifying that all replacement materials are asbestos-free.

**Failure to make any of the submittals outlined in this program can result in payment being withheld.**

**Site Security Measures:**

1. The UIC Project Manager and EHSO Asbestos Coordinator shall have access to the work area for inspection at all times.
2. Supervision of the ACM abatement work shall be performed by an accredited Competent Person (as defined by OSHA 29 CFR 1926.1101) employed by the contractor at all times. All asbestos abatement workers shall be properly trained and accredited.
3. The ACM work area shall be restricted to authorized, trained, and properly protected personnel.
4. Entry into the work area by unauthorized individuals shall be reported immediately to the UIC Project Manager and EHSO Asbestos Coordinator and shall be documented in the project log.

5. The contractor shall remain in compliance with all rules, codes, standards, and regulations governing the safety of all individuals at the worksite and shall be solely responsible for any injuries, accidents, exposures or liabilities occurring due to non-compliance or failure to secure the work area.

**Stop Work Orders:**

The UIC Project Manager and EHSO Asbestos Coordinator may issue a stop work order at any time if concerns arise regarding employee or occupant safety, the integrity of the work area, security or other related concerns. If the UIC Project Manager or Asbestos Coordinator issues a verbal or written "stop work order" due to personnel, environmental or property safety risks or due to violations of rules or regulations, the contractor shall immediately stop all work and **shall have no right to project delay claims**. The contractor shall not recommence work until authorized to do so by the UIC Project Manager or EHSO Asbestos Coordinator.

**Personnel Protection Practices:**

1. Worker protection measures, including protective clothing, respirators and other equipment shall be the responsibility of the contractor. The UIC Project Manager or EHSO Asbestos Coordinator shall review and approve worker protective measures and methods prior to the beginning the project.

2. The contractor shall have, in effect on the project site, a written OSHA Hazard Communication Program as required by 29 CFR Section 1926.59.

3. The contractor shall have, in effect on the project site, a written contingency/emergency plan.

4. The contractor shall have, in effect on the project site, a written safety program for all employees.

5. Air sample results from the contractor's previous projects shall not be accepted by UIC as justification to eliminate the need to collect air samples on the project. The contractor shall conduct personal and area air sampling for a minimum of two days on the project before any decision to terminate sampling will be made. Such air sampling shall continue until the EHSO Asbestos Coordinator notifies the contractor that it may be discontinued.

**Change Orders:**

No work beyond the specified scope shall be performed without written permission by the UIC Project Manager and an official approved change order.

**Work Area Preparation and Asbestos Removal Methods:**
1. The contractor shall post "Asbestos Health Hazard" danger signs at all entrances to the work area.

2. The contractor shall provide isolation of the work area from occupied areas of the building using polyethylene barriers and air locks. Anything or anyone leaving the work area shall be properly decontaminated.

3. Negative air pressure shall be maintained within the work area at a pressure differential of -0.02 inches of water relative to the outside environment. A minimum of 4 air changes per hour shall be achieved within the work area throughout the project. At a minimum, high efficiency particulate air (HEPA) filters used in negative air machines shall be replaced after 600 hours of continuous use.
   a. The contractor shall be responsible for maintaining the required negative pressure environment within the work area. The contractor shall also be responsible for obtaining any legal certifications or licenses for any patented systems used on the project.
   b. Negative air pressure shall be maintained continuously in the work area from the beginning of the asbestos abatement project until final air clearance is achieved.

4. The UIC Project Manager shall provide and/or have disconnected all electrical services as needed upon the written request of the contractor. The UIC Project Manager will also identify appropriate power sources for contractor's use prior to beginning the project. The contractor's electrical equipment shall be ground fault protected.

5. The contractor shall use industry-accepted asbestos removal procedures. All visible evidence of asbestos debris shall be removed using methods such as HEPA vacuuming, wet wiping, wet brushing, wet scraping and other state-of-the-art techniques. Dry sweeping shall be prohibited in the work area. All areas and surfaces shall be cleaned and restored to original condition or better.

6. The contractor shall not seal or encapsulate any abated surfaces until final visual inspection and clearance test results are accepted by the EHSO Asbestos Coordinator.

7. Pigmented sealants/encapsulates shall be sprayed on abated surfaces after asbestos has been removed and after acceptable final clearance has been achieved.

8. Projects involving contaminated soil crawl space areas shall generally require a minimum of 3 inches of surface soil removal within a 6-foot distance of the asbestos source.

9. In preparation for ACM waste disposal, the contractor shall remove and properly containerize all asbestos-contaminated materials including disposable coveralls and polyethylene sheets. Contaminated materials shall be adequately wetted and packaged in sealed leak-tight containers with approved OSHA and US DOT labels, identifying the contents as asbestos materials. Wet asbestos waste shall be placed into labeled leak-tight wrappings and/or containers according to industry standards or better.

10. ACM waste containers shall be transported in enclosed vehicles to a US EPA and Illinois EPA approved disposal site. The contractor shall complete Asbestos Manifest Forms and shall send the appropriate copy to the Illinois EPA with a
copy to the EHSO Asbestos Coordinator at the same time that waste is sent for disposal.

11. All disposal fees shall be paid by the contractor.

**Cleaning Standards:**

1. Inaccessible asbestos materials (e.g. in wall cavities, etc.) may be sealed or encapsulated in-place with prior approval of the college/university or their representative.
2. All surfaces in the work area and decontamination unit shall be wet wiped, HEPA vacuumed, and cleaned and all debris shall be properly disposed of.
3. All areas of the abatement project shall be subject to visual inspection and air sampling as instructed by the EHSO Asbestos Coordinator. Aggressive air sampling procedures shall be used as part of final clearance testing of work areas where required by the EHSO Asbestos Coordinator.

**Air Sampling and Final Clearance Certification:**

**Personal (Worker) and Area Air Sampling Requirements:**

1. The contractor shall conduct daily personal air sampling on abatement workers according to the procedures outlined in OSHA 29 CFR 1926.1101.
2. UIC reserves the right to also conduct daily area air sampling in or around the work area to gauge the effectiveness of the abatement work methods.
3. Any laboratory selected for analyzing air samples shall possess current certification verifying their participation in the National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), and the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) program. The laboratory shall also have demonstrated ability in analyzing clearance air samples using Phase Contrast Microscopy (PCM) and transmission electron microscopy (TEM). All analysts for the laboratory shall have successfully completed the National Institute for Occupational Safety and Health (NIOSH) 582 course (or equivalent) and show proficiency in the NIOSH 7400 analytical method for fiber counting as published in the NIOSH Manual of Analytical Methods.
4. A complete record of all air sampling results and other records such as pump calibration data shall be furnished to the EHSO Asbestos Coordinator upon request.

**Final Clearance Certification:**

1. The designated environmental consultant for each project shall be responsible for conducting final project clearance testing.
2. The environmental consultant shall be licensed by IDPH as project manager in accordance with Section 855.100 for asbestos abatement projects.
3. Final clearance testing records shall be maintained by the environmental consultant and shall include the results of visual inspections, equipment used, number of samples taken, sample locations, dates, airflow rates and time sampled.

4. All equipment, instruments and procedures used for final clearance testing shall be of the accepted industry standard.

5. Based on the size and configuration of the work area and the type of ACM being removed, the environmental consultant shall determine the number and type(s) of visual inspections and the total number of air samples necessary to achieve final clearance certification for the project. In addition, the environmental consultant shall determine whether aggressive or static air sampling will be required. (NOTE: It is recommended that a Certified Industrial Hygienist (CIH) be consulted to determine specific procedures.)

6. For smaller abatement projects, facilities that are not intended for re-occupancy and for certain limited non-friable ACM abatement projects, the work area shall be considered clean when there is no visible residue present on work area surfaces and when the result of each air sample collected and analyzed by PCM is less than or equal to 0.1 fibers per cubic centimeter (cc) of air.

7. For larger abatement projects (especially those involving friable ACM) and for facilities that will be re-occupied, the work area shall be considered clean when there is no visible residue present on work area surfaces and when the result of each air sample collected and analyzed by TEM is less than 0.01 asbestos structures per cc of air.

8. All asbestos abatement projects performed in or near occupied areas shall require aggressive air sampling with TEM analysis for final clearance tests.

9. When the tested area(s) fail to meet the specified level of cleanliness, the area shall be re-cleaned by the contractor (at the contractor's expense) and re-sampled under the supervision of the environmental consultant. Repeated cleaning and clearance testing shall be required (at the expense of the contractor) until the acceptable final clearance level is achieved.

10. The EHSO Asbestos Coordinator may require additional air samples and/or additional analysis as needed.

11. Any questions concerning the asbestos abatement specifications or clearance testing procedures shall be directed to the EHSO Asbestos Coordinator.

**Damage to University Property:**

The UIC Project Manager and the contractor shall inspect the work area prior to start of work and note all existing conditions. Any damage to university property by the contractor shall be promptly repaired by the contractor and assessed as a condition of final project acceptance. The contractor shall be responsible for restoring all work areas and surfaces to their original condition or better.
Asbestos Medical Surveillance Program

OSHA 29 CFR 1926.1101 and 29 CFR 1910.1001 requires that employees performing Class I, II, or III Asbestos work more than thirty days and employees exposed to asbestos at or above the STEL be included in a medical surveillance program. At UIC, this group would largely consist of maintenance employees working in buildings containing asbestos over thirty days per year as well as employees in Utilities. The medical surveillance program includes the following elements:

Physical Exam:

Exams will be performed by a MD or Nurse Practitioner. The initial Baseline Asbestos Physical will include the following: vital signs, height and weight, examination of the head, eye, ear, nose, and throat, cardiac system, respiratory system, gastrointestinal system, musculoskeletal system, urine drug screen, and a work capacity evaluation. The Annual Asbestos Physical conducted every year thereafter will include the following: vital signs, height and weight, examination of the head, eye, ear, nose, and throat, cardiac system, respiratory system, and gastrointestinal system.

During the physical exam, a detailed work history including past employment exposures will be taken. The worker should be informed regarding the nature of asbestos-related diseases and the rationale for the medical surveillance program. OSHA requires that a specific questionnaire be administered to employees at every asbestos screen. This questionnaire is included as Appendix D to the Asbestos Standard 1910.1001.

Part 1 of the Appendix contains the Initial Medical Questionnaire, which must be completed for all new hires who will be covered by the medical surveillance requirements. Part 2 is the abbreviated Periodical Medical Questionnaire, which must be administered to all employees at subsequent asbestos physicals. The questionnaire will be reviewed with the employee by the MD or Nurse Practitioner.

Fecal Occult Blood Test Monitoring:

The physical exam will include a fecal occult blood test to determine if there is blood in the stool that may be related to colon cancer. Each employee will be offered a take home kit for collecting three separate stool samples. The employee will bring the samples back to UHS where they will be tested for traces of blood. Positive tests necessitate follow up with Nurse Practitioner or MD and referral back to the employee’s primary medical provider.

Pulmonary Function Test:

OSHA standard 1910.1001 requires that all employees in the asbestos medical surveillance program have a pulmonary function test (PFT). A RN, Nurse Practitioner, or MD must conduct the PFT. Results of the test will be reviewed with the employee and copies will be provided at the time of the assessment.
Chest X-Ray:

The Nurse Practitioner or MD will order a chest x-ray for all employees as indicated by the OSHA guidelines in 1910.1001. A copy of Table 2 from 1910.1001 is listed below:

<table>
<thead>
<tr>
<th>Years since first exposure</th>
<th>15 to 34</th>
<th>35+ to 44</th>
<th>45+</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10</td>
<td>5 years</td>
<td>5 years</td>
<td>5 years</td>
</tr>
<tr>
<td>10+</td>
<td>5 years</td>
<td>2 years</td>
<td>1 year</td>
</tr>
</tbody>
</table>

A chest x-ray will be reviewed by a certified pulmonologist after completion of the annual examination. Any abnormal result will require the employee to return to UHS for review of the result by MD or Nurse Practitioner and Medical Director.

Notification of Assessment Results:

1. Generalized finding and results of the assessment will be reviewed with the employee on the day of the assessment. Employees will be provided a copy of PFT Employee Respirator Clearance Form and Pulmonary Function Test Notification Letter signed by the MD or Nurse Practitioner.
2. If the chest x-ray has an abnormal finding, a copy of the results will be given to the employee for follow-up with their primary care physician as soon as possible along with a Confidential Health Report Form to be returned to UHS.
3. Pending the chest x-ray result, the employee may return to work with the appropriate respiratory clearance as indicated on the Employee Respirator Clearance Form.
4. A letter will be issued to the employee once the chest x-ray results have been reviewed and will be sent to the employee’s home address, unless otherwise requested by the employee for reasons of confidentiality.

Medical Surveillance Frequency: Asbestos medical surveillance should begin at the time notification and/or discovery of employee’s exposure to asbestos at or above the STEL. The asbestos physical will be repeated annually thereafter and upon termination of employment.