

ASBESTOS MANAGEMENT PROGRAM

The Ohio State University



PREPARED BY:

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Environmental Health and Safety
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1.0 EMERGENCY PROCEDURES AND CONTACT INFORMATION

1.1 EMERGENCY RESPONSE PROCEDURES

The mere presence of asbestos within a building does not mean that an emergency exists. When left intact and undisturbed, asbestos-containing materials do not pose a health risk to building occupants; however, in the event of unplanned damage or disturbance occurs to asbestos-containing material, the following actions should be taken:

- Isolate and secure the area
- Post warning sign on doors or other entrances to the area to prevent entry into the area
- If possible, turn off fans and HVAC system, shut windows, seal the ventilation system, to prevent potential migration of fibers to other parts of the building
- Contact your supervisor or Building Coordinator, or contact Environmental Health & Safety directly at (614) 292-1284
- After hours, on weekends, and holidays please contact the Department of Public Safety at (614) 292-2121 and identify that this is an asbestos emergency
- Regional campus personnel should contact their Facilities Managers who have the contact information for the designated asbestos abatement company and on-call consultant

1.2 CONTACT INFORMATION

Asbestos Emergencies

Environmental Health & Safety
1314 Kinnear Road, #106
(614) 292-1284, Select Option 1

General Asbestos Program Information

Michael Lee – Asbestos Program Coordinator
Environmental Health & Safety
1314 Kinnear Road, #106, Columbus, Ohio 43212
(614) 688-3963

Ryan Malott, CIH - Hazardous Materials Coordinator
Design and Construction (FDC) / Environmental Health & Safety
2009 Millikin Road, #400, Columbus, Ohio 43210
(614) 292-6747

2.0 PROGRAM OVERVIEW

2.1 PURPOSE

This asbestos management program helps protect faculty, staff, students, patients, visitors, contractors, and consultants from asbestos related hazards while at The Ohio State University (OSU). This plan's intent is to meet or exceed applicable federal, state, and local asbestos regulations. This plan provides policies and procedures for the appropriate management of asbestos-containing materials likely to be disturbed during renovations, demolitions, and operations and maintenance activities, as well as the in-place management of asbestos building materials associated with OSU owned or leased buildings.

2.2 APPLICABILITY

This asbestos management program applies to all OSU owned or leased buildings or space, including but not limited to main and regional campus buildings, medical center buildings, and county extension offices. All staff, faculty, contractors, and consultants working for OSU, directly or indirectly shall comply with the requirements of this asbestos management plan.

2.3 PROGRAM RELATED DOCUMENTS

In addition to the requirements presented in this document, all staff, faculty, contractors, and consultants working for OSU, directly or indirectly, shall comply with the requirements of applicable OSU Building Design Standards, regardless of project size or cost. Additionally, OSU staff who performs Class III or IV Asbestos Work as defined by OSHA shall comply with OSU's "Standard Operating Procedures for Class III and IV Asbestos Work Activities".

3.0 GENERAL ASBESTOS INFORMATION

3.1 ASBESTOS CHARACTERISTICS/APPLICATIONS

The specific attributes and characteristics vary with the different mineral types and fibrous forms. In general, commercially valuable asbestos minerals form fibers, which are light-weight, incombustible, have high tensile strength, good thermal and electrical insulating properties, as well as moderate to good chemical resistance. Fibrous asbestos may be packed, woven, or sprayed. These characteristics and those of durability, flexibility, strength, and resistance to wear resulted in asbestos being used for more than 3,000 commercial products. As a building material, asbestos has been used as thermal systems insulation on plumbing lines and related equipment, spray fire proofing on structural steel, surfacing decorative plaster, roofing and flooring materials, friction products, and adhesives. Chrysotile asbestos is the primary mineral form used in these building and commercial applications.

3.2 ASBESTOS SOURCES

Naturally occurring asbestos is found in various parts of the world, including the southwest portions of the United States. Chrysotile asbestos was the first commercial mineral form to be mined. This operation began in Quebec, Canada in the 1870's and continued until 2012. Amosite asbestos comes from South Africa, which started mining operations in 1916. Crocidolite, another amphibole of lesser economic importance, is mined in South Africa and China.

3.3 HEALTH CONCERNS

Inhalation is the primary means by which asbestos fibers may enter the body. In addition, asbestos fibers may enter the body by ingestion as a result of inadvertent consumption of liquids and foods contaminated with this material. The mineral fibers are retained in the tissues of the body throughout a person's life, even after the cessation of exposure. Fibers have been known to migrate to other organs following retention in the lungs. The three main diseases associated with asbestos exposure include:

3.3.1 ASBESTOSIS

A non-cancerous scarring of the lung tissue that causes shortness of breath, breathing difficulty, and often heart failure. The latency period is generally 10-20 years following exposure.

3.3.2 LUNG CANCER

A cancer that impacts the lung tissue, which often takes as much of twenty years to develop. Lung cancer may develop independent of the development of asbestosis. Persons who have industrial exposures to asbestos have a five (5) times greater chance of developing lung cancer than those persons who do not work with the material. It has been found that there is a synergistic affect associated with cigarette smoke, asbestos, and lung cancer. The risk of asbestos exposed workers who smoke can expect a 50 times greater chance of lung cancer than those persons who do not smoke or work with asbestos. The latency period can often take 20 or more years for the cancer to develop.

3.3.3 MESOTHELIOMA

A rare form of cancer that attacks the lining of the chest and abdominal cavity, as well as the lining of the heart. This disease is usually always fatal. The latency period is generally 20-40 years.

3.4 APPLICABLE REGULATIONS

The OSU Asbestos Management Program has been developed to comply with the following applicable regulations:

- 40 CFR Part 61, Subpart M: National Emission Standard for Hazardous Air Pollutants (NESHAP)
- Ohio Administrative Code (OAC) Asbestos Emission Control: Chapter 3745-20
- Ohio Administrative Code (OAC) Asbestos Hazard Abatement Contractors, Specialists, & Other Professionals: Chapter 3745-22
- 29 CFR Part 1910.1001 Asbestos Standard for General Industry
- 29 CFR Part 1926.1101 Asbestos Standard for the Construction Industry

4.0 ASBESTOS IDENTIFICATION AND MANAGEMENT

4.1 REQUIREMENTS FOR ASBESTOS ASSESSMENTS

In accordance with federal and state regulations, OSU requires that an asbestos assessment must be performed prior to any disturbance of building materials, including, but not limited to, maintenance activities, disaster cleanup, cosmetic improvements, installation of utilities, renovations, demolitions, cleanup of building material debris, etc. Additionally, when damaged building materials are discovered within OSU buildings, EHS should be contacted so that the material can be assessed for asbestos content.

Prior to disturbance of building materials for any reason, an asbestos assessment request shall be submitted to EHS/FDC at the website link below:

<https://ehs.osu.edu/service-requests>

Depending upon the scale and complexity of a project, EHS may recommend the use of a qualified and certified third-party environmental consultant to perform the asbestos assessment and related services.

4.2 TYPES OF ASBESTOS ASSESSMENTS

It is important to understand that federal, state, and OSU regulations and policies require the performance of an asbestos assessment prior to any repair, alteration, renovation, or demolition activity that will likely disturb building materials, regardless of the building's or material's age. Written documentation of this asbestos assessment must be present on all jobsites during the aforementioned activities, regardless of whether or not asbestos-containing materials (ACM) exist.

If ACM will be disturbed by the project work, the ACM must first be removed by an Ohio-licensed Asbestos Hazard Abatement Contractor. If the project work will not disturb or is not intended to disturb the ACM, the presence and location of the ACM must be clearly communicated to all persons involved with the project. Additionally, the ACM must be adequately protected from accidental or incidental disturbance.

Depending upon the type of disturbance, OSU has classified these assessments into four (4) different types as described below:

4.2.1 BASELINE ASBESTOS ASSESSMENT

A Baseline Asbestos Survey is also called an Asbestos Building Survey. Building materials that are accessible by employees, building occupants, and/or maintenance personnel are sampled throughout the building. The purpose of baseline surveys is to determine the presence and location of ACM throughout the facility so it may be managed in place and used to identify hazards to help with abatement. The survey may include limited sampling of concealed materials (such as vinyl tile beneath carpet) but does not typically include destruction of building components to access concealed materials or concrete coring. Baseline surveys are the primary means of collecting data to establish an asbestos inventory for a building.

4.2.2 PRE-RENOVATION ASBESTOS ASSESSMENT

This type of assessment includes thorough sampling and assessment of all suspect ACM likely to be impacted during the renovation's scope of work. Reports should clearly define the areas and materials assessed. Intrusive sampling techniques are required to identify ACM within inaccessible areas that will be impacted during renovations. If intrusive sampling cannot be performed at the time of the initial survey, the report must clearly be watermarked as "Preliminary" and state that the report is not in compliance with NESHAP until thorough sampling can be completed. The report shall also include a detailed list describing any additional work necessary to complete the survey so that it is compliant with NESHAP.

4.2.3 PRE-DEMOLITION ASBESTOS ASSESSMENT

This type of assessment includes thorough sampling and assessment of all suspect ACM likely to be impacted during a demolition activity. Intrusive sampling techniques are necessary during this type of assessment to identify ACM within inaccessible areas of the building. If intrusive sampling cannot be performed at the time of the initial survey, the report must clearly be watermarked as "Preliminary" and state that the report is not in compliance

with NESHAP until thorough sampling can be completed. The report shall also include a detailed list describing any additional work necessary to complete the survey so that it is compliant with NESHAP.

4.2.4 LIMITED ASBESTOS SAMPLING ASSESSMENT

This type of assessment includes sampling and assessment of limited materials, typically to determine whether damaged building materials contain asbestos or materials containing asbestos will be impacted during maintenance or minor cosmetic improvement activities.

4.3 ASBESTOS ASSESSMENT REQUESTS

Asbestos survey requests should be submitted to EHS at:

<https://ehs.osu.edu/service-requests>

4.4 ASBESTOS ASSESSMENT REPORT REQUIREMENTS

All asbestos assessments, completed by OSU or external consultants, shall submit reports using the currently approved EHS/FDC report templates. Assessments must comply with all applicable federal and state regulations.

All asbestos assessment reports prepared by external consultants for any OSU owned or leased building or leased space shall be submitted directly to EHS/FDC for review.

OSU requires that all building materials (excluding non-suspect glass, metal, wood, or fiberglass) be treated as suspect ACM, regardless of a materials installation date. Materials shall only be treated as non-ACM if they have been adequately sampled in accordance with the AHERA sampling protocol and found not to contain asbestos by PLM or TEM analysis. TEM analysis is recommended to confirm NOBs as non-ACM. 9" floor tiles shall not be classified as non-ACM unless confirmed by TEM.

At a minimum, each report prepared for an asbestos assessment shall include:

- The current OSU building name and number
- For buildings which do not have an assigned building name and number shall be listed with the street name, address number (e.g. Buckeye Avenue, 1314)
- Written description of quality assurance and quality control procedures
- A copy of the current OSU building floor plan
- Photos of all sampled materials

- A written description clearly defining the scope and purpose of the survey
- Samples of Drywall systems (where the joint compound is only applied to seams and screw/nail heads and not the entire surface of the drywall board) shall include analysis of both the drywall board and joint compound and reported as separate layers. If any layer is found to contain asbestos, point count analysis of the composite shall be included

Additional policies:

- EHS shall be notified prior to performing any asbestos-related assessment within OSU owned or leased spaces
- Consultants performing asbestos surveys are responsible for reviewing historical asbestos data on file with EHS.
- Previously confirmed ACM shall not be refuted as non-ACM through additional sampling, unless the consultant can provide written documentation clearly describing their rationale and justification for such a change (e.g. point counting was not previously performed, the material can be delineated into to one or more homogenous areas not previously identified, etc.)
- Consultants shall not rely upon prior data collected by OSU or another consultant indicating a material status as non-ACM, unless the data is contained within a full report that is compliant with current Ohio EPA asbestos bulk sampling report requirements described in Ohio Administrative Code 3745-22-06. Regardless, OSU recommends that consultants support non-ACM determinations with their own sample analysis. Consultants relying on data provided by other parties do so at their own risk.
- To avoid potential conflict of interests, contractors providing asbestos abatement services at OSU shall not perform asbestos bulk sampling, air clearances, or other related assessment activities. Abatement contractors may perform personal exposure monitoring for their staff and subcontractors.

4.5 MANAGEMENT PLANS

EHS will prepare a management plan for each OSU owned or leased building upon completion of the baseline asbestos survey report.

5.0 ASBESTOS-RELATED PROJECTS, WORK, AND RESEARCH

5.1 FIBER RELEASE EPISODES

A fiber release episode is defined as the unintentional or uncontrolled disturbance of friable asbestos containing material. In some cases, non-friable ACM may be



rendered friable resulting in a fiber release episode. Fiber release episodes are further categorized as:

- **Minor Fiber Release Episode** is defined as the unintentional or uncontrolled disturbance of less than 3 feet of friable ACM.
- **Major Fiber Release Episode** is defined as the unintentional or uncontrolled disturbance of more than 3 feet of friable ACM

In the event that a fiber release episode occurs:

- Isolate and secure the area
- Post warning sign on doors or other entrances to the area to prevent entry into the area
- If possible, turn off fans and HVAC system, shut windows, seal the ventilation system, to prevent potential migration of fibers to other parts of the building
- Contact your supervisor or Building Coordinator, or your department's Designated Asbestos Abatement Coordinator (DAAC). You may also contact Environmental Health & Safety directly at (614) 292-1284.
- Contact Environmental Health and Safety for all major fiber release episodes as soon as possible
- After hours, weekends, and holidays please contact the Department of Public Safety at (614) 292-2121 and identify that this is an asbestos emergency
- Regional campus personnel should contact their Facilities Managers who have the contact information for the designated asbestos abatement company and on-call consultant
- Notify EHS in writing details of the fiber release episode. Please include the following information:
 - Material and quantity disturbed
 - Cause of disturbance (e.g. leak, vandalism, etc.)
 - Description of isolation and cleanup actions
 - Who performed cleanup
 - Where was material disposed

Only properly trained and authorized individuals are permitted to clean-up debris resulting from minor fiber release episodes. Only licensed Asbestos Hazard Abatement Contractors shall perform cleanup of major fiber release episodes. Additionally, an abatement contractor should be utilized for minor fiber release episodes where ACM has been distributed over a large area.

5.2 RENOVATION PROJECTS

Both federal and state law require that a thorough asbestos survey be performed prior to any renovation activity to identify asbestos-containing materials which may

be impacted by the project. This asbestos survey must be completed regardless of project size or the age of the building.

In Ohio, this survey must be performed by an Ohio-certified Asbestos Hazard Evaluation Specialist. If a baseline building survey or other asbestos sampling data exists for the building, the project's scope of work must be reviewed by an Asbestos Hazard Evaluation Specialist to determine whether existing data sufficiently covers the project. The Asbestos Hazard Evaluation Specialist shall document this review in writing. If the existing documentation does not adequately cover the project, then a supplemental asbestos survey must be performed. The OSU project manager shall provide a copy of the asbestos survey report to all contractors working on the project. All contractors shall maintain a copy of this asbestos survey report onsite at all times throughout the duration of the project.

5.3 DEMOLITION PROJECTS

Federal and state laws require that a thorough asbestos survey be performed prior to any demolition activity to identify all friable and non-friable asbestos-containing materials which will. This asbestos survey must be completed regardless of project size or the age of the building.

Baseline building surveys and/or other limited asbestos sampling data does not satisfy the requirement of a "thorough asbestos survey" for demolition purposes. An Ohio-certified Asbestos Hazard Evaluation Specialist shall prepare a pre-demolition asbestos survey report for each demolition project. Baseline and limited asbestos sampling data may be incorporated into the pre-demolition asbestos survey report at the discretion of the Asbestos Hazard Evaluation Specialist.

5.4 MINOR REFRESH/COSMETIC UPDATE PROJECTS

Both federal and state law require that a thorough asbestos survey be performed prior to any renovation activity, including minor refresh and cosmetic updates to identify asbestos-containing materials which may be impacted by the project. This asbestos survey must be completed regardless of project size or the age of the building.

In Ohio, this survey must be performed by an Ohio-certified Asbestos Hazard Evaluation Specialist. If a baseline building survey or other asbestos sampling data exists for the building, the project's scope of work must be reviewed by an Asbestos Hazard Evaluation Specialist to determine whether existing data sufficiently covers the project. The Asbestos Hazard Evaluation Specialist shall document this review in writing. If the existing documentation does not adequately cover the project, then a supplemental asbestos survey must be performed. The OSU project manager shall provide a copy of the asbestos survey report to all contractors working on the project. All contractors shall maintain a copy of this asbestos survey report onsite at all times throughout the duration of the project.

5.5 OPERATIONS AND MAINTENANCE ACTIVITIES

Operations and maintenance activities is an integral part of in place management of asbestos-containing materials (ACM) and presumed asbestos-containing materials (PACM) within OSU owned and leased spaces. Compliance with these measures helps allow ACM and PACM to be safely managed in place, nuisances to be corrected, and danger to human health and the environment to be reduced or eliminated.

OSU policy requires that only Ohio-licensed Asbestos Hazard Abatement Contractors perform Class I and II Asbestos Work. OSU employees shall not perform Class I and II Asbestos Work.

Properly trained, qualified, and authorized OSU employees may perform Class III and Class IV Asbestos Work at the discretion of OSU EHS. Class III and IV Asbestos Work shall be performed in compliance with applicable federal and state regulations, as well as OSU's "Standard Operating Procedures for Class III and IV Asbestos Work Activities" and this document.

5.6 RESEARCH INVOLVING ASBESTOS

Prior to the start of research projects involving the use of asbestos or asbestos-containing materials, the Principal Investigator, or their assigned designee, shall contact EHS to schedule a job hazard analysis for the related work. Based on the results of the job hazard analysis, EHS will assist in developing specific guidance and procedures so that the research project may be performed safely and in compliance with applicable laws and regulations.

Additionally, many fire blankets, countertops, fume hoods, lab gloves (white to gray woven cloth cold/heat resistant style), wire mesh screens, test-tube holders, and other similar items commonly found in laboratories were manufactured with asbestos. Laboratory items suspected of containing asbestos should not be used. Please contact EHS for asbestos sampling or disposal options.

5.7 VEHICLE MAINTENANCE

Historically, many automotive products, including but not limited to brake pads, clutches, heat shields, gaskets, etc. were manufactured with asbestos. Even today, asbestos is not banned in many of these products. Please contact EHS to schedule a job hazard analysis and for proper disposal options of asbestos-containing materials.

Vehicle maintenance activities that involve handling asbestos-containing materials should require the maintenance supervisor contacting EHS to schedule a job hazard analysis for the related work. Based on the results of the job hazard analysis, EHS

will assist in developing specific guidance and procedures so that the maintenance work may be performed safely and in compliance with applicable laws and regulations.

5.8 ASBESTOS ABATEMENT PROJECTS

All asbestos abatement projects (OSHA Class I or II) performed on OSU owned or leased buildings, regardless of client, project size, quantity, or cost shall be completed in accordance with applicable federal and state law, this document, and OSU Building Design Standards.

EHS shall be notified prior to performing any asbestos-related work within OSU owned or leased spaces. Please contact EHS questions regarding current the current notification process.

5.9 CLEARANCE CRITERIA FOR ABATEMENT PROJECTS

At a minimum, final visual and air-clearance inspections are required for the following projects:

- Removal, repair, encapsulation, or enclosure of greater than 50 square feet or linear feet of non-friable and/or friable asbestos materials.
- Removal of greater than 3 square feet or linear feet of non-friable or friable asbestos materials in sensitive areas (e.g. student housing/dorms, medical center facilities, etc.)

A written variance from these requirements may be requested from EHS for special circumstances. Please see the [OSU Building Design Standards](#) for additional information.

6.0 RESPONSIBILITIES

6.1 ENVIRONMENTAL HEALTH AND SAFETY

Environmental Health and Safety provides the following services in support of OSU's compliance with federal and state asbestos related laws and regulations:

- Provides guidance and recommendations to all OSU departments, staff, and faculty for compliance with applicable federal and state asbestos regulations and laws
- Performs asbestos surveys for renovations, demolitions, maintenance activities, damaged building materials, etc.
- Supports various departments in obtaining proper training to perform asbestos-related work (e.g. OSHA Class III)



-
- Archival of asbestos surveys, clearances, closeouts, etc. and other asbestos related documentation
 - Responds to minor and major fiber release episodes
 - Investigates asbestos concerns of students, faculty, staff, contractors, building occupants, and visitors
 - Performs periodic unannounced inspections of asbestos abatement projects to monitor compliance with applicable laws and regulations
 - Accompany asbestos regulatory agencies when visiting OSU owned and leased spaces

6.2 OSU STAFF AND FACULTY

All OSU staff and faculty members are to follow the requirements of this document, as well as all applicable federal, state, and local laws and regulations. In addition:

- Do not clean, repair, damage, disturb, or remove asbestos-containing materials
- Contact your supervisor to report debris from or damage to suspect asbestos containing materials.
- Maintain current asbestos awareness training

Additionally, supervisors, directors, etc. shall:

- Ensure that information and procedures contained within this Asbestos Program document are strictly followed by all personnel
- Ensure that new employees are properly trained. At a minimum, all employees should maintain asbestos awareness training.
- Contact Environmental Health and Safety or qualified environmental consultant to perform the appropriate asbestos survey or suspect asbestos-containing materials encountered during routine operations
- Immediately contact your Designated Asbestos Abatement Coordinator (DAAC) or Environmental Health and Safety for clean-up/repair if an employee reports that ACM has been discovered in a damaged state or was accidentally disturbed
- Ensure that authorized employees engaging in asbestos-related work are maintain required training, follow proper work procedures while handling ACM, and that only current negative exposure assessments (NEAs) are relied upon
- Coordinate annual air sampling with Environmental Health and Safety or qualified environmental consultant to perform annual NEAs if current asbestos-related work (e.g. OSHA Class III) are performed by your faculty or staff



6.3 OSU DESIGNATED ASBESTOS ABATEMENT COORDINATORS, PROJECT MANAGERS AND PROJECT COORDINATORS

All OSU staff and faculty members who are responsible for renovations, demolitions, repair, maintenance, refresh, cosmetic, and other activities that will disturb building materials, regardless of the building or materials age are to follow the requirements of this document, as well as the following items:

- Compliance with all federal, state, and local asbestos related laws and regulations
- Ensure that an asbestos survey is completed for each project. If a building asbestos survey exists, the project's scope of work must be reviewed by an Ohio-certified Asbestos Hazard Evaluation Specialist
- Provide a copy of the project's asbestos survey to all contractors and abatement contractors who will be working on the project
- When contracting asbestos abatement work, ensure that the abatement contractor's scope of work is clearly defined in writing, listing exact locations and quantities of ACM
- Provide abatement contractors and consultants with current copies of building floor plans
- Ensure that funding for all environmental considerations, including abatement and consulting services are accounted in the project budget
- Stop work immediately if additional ACM or suspect ACM is encountered during work and notify EHS.
- Notify EHS immediately if an OSHA, EPA, Ohio EPA or other asbestos regulator visits the project site

6.4 PURCHASING

When OSU departments request renovation or installation services from contractors, before approving the purchase order, purchasing will check with Environmental Health and Safety to verify that the proper asbestos survey has been completed. If ACM or PACM will be impacted or disturbed during the course of the project, the department requesting the purchase order shall provide adequate documentation to purchasing and Environmental Health and Safety indicating how the ACM or PACM will be properly abated in accordance with federal and state laws, as well as OSU policies.

- Purchasing will maintain language in specifications and contracts notifying all contractors of the potential presence of asbestos in OSU owned and leased spaces and the requirement that all contractors, contractor employees to maintain current asbestos awareness training.

6.5 STUDENTS

All OSU students are to follow the requirements of this document, as well as all applicable federal, state, and local laws and regulations. In addition:

- Students shall not clean, repair, damage, disturb, or remove asbestos-containing materials
- Contact an OSU staff or faculty member to report debris from or damage to suspect asbestos containing materials

6.6 CONTRACTORS

- Contractors working within OSU owned or leased spaces shall not disturb any building material unless they have proper written documentation confirming that the material is non-ACM
- If not previously provided, the contractor shall request a copy of the projects asbestos survey from the OSU project manager prior to commencement of work
- The contractor shall communicate to all their employees and subcontractors the presence and locations of all suspect and known ACM in the area they are to perform work
- Contractors shall not disturb any suspect or known ACM unless they are an Ohio-licensed Asbestos Hazard Abatement Contractor or they have been approved by EHS for asbestos work which does not require the aforementioned license
- All contractors, employees, and subcontractors shall maintain current asbestos awareness training
- Contractors shall immediately stop work and contact the OSU project manager if a previously unidentified ACM or suspect ACM discovered

6.7 ASBESTOS ABATEMENT CONTRACTORS

All asbestos abatement work performed on OSU owned or leased building, regardless of client, project size, quantity, or cost shall be completed in accordance with the current version of the OSU Building Design Standards.

EHS shall be notified prior to performing any asbestos-related work within OSU owned or leased spaces. Please contact EHS questions regarding current the current notification process.



6.8 ASBESTOS CONSULTANTS

All asbestos consulting work performed on OSU owned or leased building, regardless of client, project size, quantity, or cost shall be completed in accordance with the current version of the OSU Building Design Standards.

EHS shall be notified prior to performing any asbestos-related assessment within OSU owned or leased spaces. Please contact EHS questions regarding current the current notification process.

6.9 OSU PERSONNEL PERFORMING OPERATIONS AND MAINTENANCE (CLASS III WORK)

At the discretion of EHS and individual departments, OSU personnel may be authorized to perform Class III or IV asbestos work in order to perform routine operations and maintenance activities. All Class III and IV work shall be completed in accordance with this document and the Standard Operating Procedures for Class III and IV Asbestos Work Activities available from EHS.

7.0 TRAINING

Employees and contractors who engage in asbestos work shall maintain proper training in accordance with applicable federal and state laws, including but not limited to OSHA, EPA, and the Ohio EPA. Since there are various levels of training required depending on the type of involvement with asbestos materials, each department is responsible for ensuring that employees are properly trained for their level of asbestos involvement. It is also the responsibility of each department to maintain the appropriate training records for each employee. Please contact EHS for training-related assistance and guidance.

7.1 AWARENESS

This is the most basic level of asbestos training, and is required for all faculty and staff who perform the following activities where asbestos-containing materials (ACM) or presumed asbestos-containing materials (PACM) may exist:

- Maintenance work
- Construction work
- Housekeeping or custodial work
- Brake and clutch servicing work
- Manufacturing work

An on-line Asbestos Awareness training module is available through Buckeye Learn. Training is required initially with annual refreshers thereafter.

7.2 OPERATIONS AND MAINTENANCE (CLASS III WORK)

Maintenance employees who may disturb small amounts (maximum of 3 square feet or 3 linear feet) of ACM through the course of their maintenance activities are required to undergo sixteen-hour asbestos training. Training shall be obtained from a qualified training provider. Training is required initially with annual refreshers thereafter.

7.3 RESPIRATORY PROTECTION

Employees engaged in asbestos-related activities are required to participate in the University's respiratory protection program. Respiratory protection training and fit testing is provided by EHS.

Training is required initially and at annual intervals thereafter.

8.0 MEDICAL SURVEILLANCE

8.1 EMPLOYEES COVERED

All employees who for a combined total of 30 or more days per year are engaged in Class I, II and III work or are exposed at or above a permissible exposure limit are required to participate in the asbestos medical surveillance program administered by OSU Employee Health.

8.2 EXAMINATION

All medical examinations and procedures shall be performed by or under the supervision of a licensed physician and are provided at no cost to the employee and at a reasonable time and place.

Persons other than such licensed physicians who administer the pulmonary function testing shall complete a training course in spirometry sponsored by an appropriate academic or professional institution.

8.2.1 FREQUENCY

Medical examinations and consultations for each employee covered by this section shall be completed in accordance with OSHA schedule and frequency requirements as summarized described:

- Prior to assignment of the employee to an area where negative-pressures respirators are worn;

- When the employee is assigned to an area where exposure to asbestos may be at or above the permissible exposure limit for 30 or more days per year, or engage in Class I, II, or III work for a combined total of 30 or more days per year, a medical examination must be given within 10 working days following the thirtieth day of exposure;
- And at least annually thereafter.

If the examining physician determines that any of the examinations should be provided more frequently than specified by OSHA, the employer shall provide such examinations to affected employees at the frequencies specified by the physician.

8.2.2 CONTENT

Medical examinations made available pursuant to OSHA shall include:

- A medical and work history with special emphasis directed to the pulmonary, cardiovascular, and gastrointestinal systems.
- Completion of the applicable OSHA standardized questionnaire
- A physical examination directed to the pulmonary and gastrointestinal systems, including a chest roentgenogram to be administered at the discretion of the physician, and pulmonary function tests of forced vital capacity (FVC) and forced expiratory volume at one second (FEV(1)). Interpretation and classification of chest shall be conducted in accordance with applicable OSHA specifications.
- Any other examinations or tests deemed necessary by the examining physician

8.2.3 INFORMATION PROVIDED TO THE PHYSICIAN

The employer shall provide the following information to the examining physician:

- A copy of the applicable OSHA standard and related appendices;
- A description of the affected employee's duties as they relate to the employee's exposure;
- The employee's representative exposure level or anticipated exposure level;
- A description of any personal protective and respiratory equipment used or to be used; and
- Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

8.2.4 PHYSICIAN'S WRITTEN OPINION

The employer shall obtain a written opinion from the examining physician. This written opinion shall contain the results of the medical examination and shall include:

- The physician's opinion as to whether the employee has detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to asbestos;
- Any recommended limitations on the employee or on the use of personal protective equipment such as respirators; and
- A statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure;
- A statement that the employee has been informed by the physician of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure.

The employer shall instruct the physician not to reveal in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to asbestos.

The employer shall provide a copy of the physician's written opinion to the affected employee within 30 days from its receipt.

8.2.5 SCHEDULING OF EXAMINATION

Scheduling of examinations is the responsibility of the employing department. The employee's supervisor should submit asbestos examination requests to:

**OSU Employee Health
McCambell Hall
1581 Dodd Drive, #201
Columbus, Ohio 43210
(614) 293-8146**

9.0 RECORDS MANAGEMENT

9.1 ASBESTOS RELATED ELECTRONIC FILES

All asbestos related documents, including but not limited to survey reports, clearances, closeout documents, etc. prepared for any OSU owned or operated spaces shall be submitted to EHS for review and archival.

9.2 ASBESTOS DATABASE

OSU EHS is currently in the process of implementing a new asbestos database. It is the intent of this database to track ACM inventories for buildings, abatement notifications, closeout documents, compliance checks, and survey requests. This section will be updated once the database is completed.

9.3 ACCESS TO ASBESTOS DATA

Send asbestos related records requests to:

**Environmental Health & Safety
1314 Kinnear Road, #106
(614) 292-1284**

Direct access to asbestos files and databases will be at the sole discretion of EHS. At a minimum, any person authorized to access the asbestos-related data shall be certified as an Asbestos Hazard Evaluation Specialist by the Ohio EPA.

9.4 UPDATES TO BUILDING MANAGEMENT PLANS

EHS shall update building management plans as asbestos abatement projects and renovations occur.

10.0 DEFINITIONS

“Adequately wet”: means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

“Airtight barriers”: means an engineering control that prevents dust generated by an asbestos operation from escaping into the surrounding environment. These can be made of polyethylene sheeting, a manufactured glovebag, or some other fixture or material that achieves the goal of capturing dust at the point of the disturbance or preventing its release to the surrounding environment.

“Amended water”: means water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate asbestos-containing material.

“Asbestos”: means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite, as determined using the method specified in 40 CFR, Part 763, Subpart E, Appendix E, Section 1, Polarized Light Microscopy (PLM).

“Asbestos-containing material”: means any material containing more than one percent asbestos.

“Asbestos material”: means asbestos or any material containing asbestos.

“Category I non-friable asbestos-containing material”: means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than one percent asbestos as determined using the method specified in 40 CFR Part 763, Subpart E, Appendix E, Section 1, Polarized Light Microscopy (PLM).

“Category II non-friable asbestos-containing material”: means any material, excluding Category I non-friable asbestos-containing material containing more than one percent asbestos as determined using the method specified in 40 CFR Part 763, Subpart E, Appendix E, Section 1, Polarized Light Microscopy (PLM), that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“Class I Asbestos Work”: the removal of thermal system insulation and/or surfacing material (ACM or PACM)

“Class II Asbestos Work”: the removal of any ACM which is not Class I. Examples include, but are not limited to, floor tile, ceiling tiles, glues/mastics, wallboard and joint compounds, gaskets, linoleum, and Transite® board.

“Class III Asbestos Work”: repair and maintenance operations where asbestos is likely to be disturbed (see the definition of “disturbance”).

“Class IV Asbestos Work”: Maintenance and custodial construction activities during which employees contact but do not disturb ACM or PACM, and activities to clean up dust, waste and debris resulting from Class I, II, or III activities.

“Cutting” means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

“Demolition” means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operation or the intentional burning of any facility.

“Encapsulate” means to coat, bind, or resurface walls, ceilings, pipes, or other structures or asbestos-containing material with suitable products to prevent friable asbestos from becoming airborne.

“Facility” means any institutional, commercial, public, industrial or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential

cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any structure, installation or building that contains a loft used as a dwelling is not considered a residential structure, installation or building. Any structure, installation or building that was previously subject to this rule due to its prior use or function is not excluded, regardless of its current use or function.

“Friable Asbestos Material”: means any material containing more than one percent asbestos by area, as determined using the method specified in 40 CFR Part 763, Subpart E, Appendix E, Section 1 Polarized Light Microscopy (PLM), that, when dry can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than ten percent as determined by a method other than point counting by Polarized Light Microscopy, verify the asbestos content by point counting using Polarized Light Microscopy. Any category I or category II asbestos containing material that becomes damaged from either deterioration or attempts at removal or abatement resulting in small fragments the size of four square inches or less shall also be considered friable or RACM

“Glovebag”: means a sealed compartment with attached inner gloves used for the handling of asbestos-containing material.

“Grinding”: means to reduce to powder or small fragments and includes mechanical chipping or drilling.

“HEPA vacuum”: means a sealed vacuum cleaner system which has been designed with a high-efficiency particulate air (HEPA) filter as the last stage of filtration. A HEPA filter is a filter that is capable of capturing particles of 0.3 microns with 99.97% efficiency. The vacuum cleaner must be designed so that all the air drawn into the machine is expelled through the HEPA filter with none of the air leaking past it.

“High Efficiency Particulate Air (HEPA)”: A type of filter which is 99.97% efficient at filtering particles of 0.3 microns in diameter.

“Intact”: means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

“Installation”: means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator, or owner or operator under common control.

“Leak-tight”: means that liquids cannot escape or spill out. It also means dust-tight.

“Non-friable asbestos-containing material”: means any material containing more than one percent asbestos as determined using the method specified in 40 CFR Part 763, Subpart E, Appendix E, Section 1, Polarized Light Microscopy (PLM)



that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

“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.

“Regulated asbestos-containing material”: means:

Friable asbestos material;

Category I non-friable asbestos-containing material that has become friable;

Category I non-friable asbestos-containing material that will be or has been subjected to sanding, grinding, cutting, or abrading; or

Category II non-friable asbestos-containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

“Remove”: means to take out regulated asbestos-containing material or facility components that contain or are covered with regulated asbestos-containing material from any facility.

“Renovation”: means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing material from a facility component.

“Visible emissions”: means any emissions that are visually detectable without the aid of instruments, coming from regulated asbestos-containing material or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed uncombined water vapor.