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Public Safety & Compliance

Asbestos Maintenance and Operations Technical Manual

For 5.24.2.3

Minnesota State

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Asbestos Technical Manual

Part 1. Purpose

This Technical Manual provides instructions designed to assist campuses in complying with Board Policy 5.24.2.3, the Asbestos Operating Instruction. Compliance is required to safeguard building occupants from accidental exposure to ACM, and protect campuses from legal liability associated with asbestos.

Part 2. Periodic Review

The asbestos technical manual must be reviewed periodically and updated as needed. Frequency of reviews would depend on factors such as: regulatory changes, board policy updates, staff turnover, etc.

Part 3. Regulatory Standards

There are several federal and state agencies with regulatory oversight of asbestos. These agencies are OSHA, EPA, DOT, MPCA, and MDH. Agency specific standards are listed in the Asbestos Operating Instruction.

Part 4. Definitions

For the purpose of this technical manual the following words and terms are defined as follows:

Subpart A. Abatement

Work that involves the physical removal of asbestos. Work must be performed by Minnesota Department of Health certified personnel.

Subpart B. Asbestos

Asbestos means the asbestiform varieties of chrysotile (serpentine), crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite, and actinolite. Includes vermiculite, often used for attic and wall insulation.

Subpart C. Asbestos Containing Material (ACM/PACM)

Asbestos containing material means material that contains more than one percent asbestos by microscopic visual estimation by area. PACM refers to materials presumed to be ACM.

Subpart D. Asbestos Contractors

An Asbestos Contractor must attain and maintain a license with the MDH to perform asbestos related work. Asbestos contractors must employ workers certified by MDH in one of the asbestos related disciplines defined below under “Certified Individuals”. (See Part 5. Subpart D)

Subpart E. Asbestos Coordinator

The asbestos coordinator is a Campus President delegated assignment. (See Part 5. Subpart B)

Subpart F. Asbestos Hazard Emergency Response Act (AHERA)

AHERA is an EPA program. The program requires public school districts and non-profit schools including charter schools and schools affiliated with religious institutions to:

- Perform an original inspection to determine whether ACM's are present and then re-inspect these materials in each school every three years



- Develop, maintain and update an asbestos management plan and keep a copy at each of their schools

These legal requirements are founded on the principle of "in-place" management of asbestos-containing material. Local public school districts utilizing our campuses for high school classes, must include the Minnesota State campus into their program.

Subpart G. Asbestos Related Work

Asbestos-related work includes asbestos inspection (assessment) and abatement work. Only MDH certified personnel can perform these tasks. The only exception is for Class IV work.

Subpart H. Asbestos related work-Reportable

Asbestos-related work is reportable to MPCA and MDH if abatement removes 260 linear feet of friable asbestos-containing material on pipes, 160 square feet of friable asbestos-containing material on other facility components, or, if linear feet or square feet cannot be measured, a total of 35 cubic feet of friable asbestos-containing material on or off all facility components in one facility.

Subpart I. Asbestos management plan

Asbestos management plan means a site-specific written plan by an MDH certified Asbestos Management Planner. This is an AHERA requirement. The plan details:

- The maintenance of asbestos-containing material in a condition that prevents the release of asbestos fibers
- Response procedures for an asbestos fiber release episode

Subpart J. Asbestos project design

Asbestos project design, means site-specific written project specifications, written by an MDH certified Asbestos Project Designer. Written technical project specifications incorporated into bidding documents are also considered project design; however, the technical project specifications mustn't be used for asbestos work, unless written or approved by a certified asbestos project designer.

Subpart K. Building Occupants

Building occupants are faculty, students, staff, contractors and campus visitors. (See Part 5 Subpart C)

Subpart L. Certified Individuals (MDH)

The MDH issues certifications for asbestos related disciplines. For each discipline, the applicant must meet minimum experience requirements, submit the corresponding certification fee and attach a completed training certificate. The application link:

(<http://www.health.state.mn.us/divs/eh/asbestos/forms/app-cert.pdf>)

MDH requires annual refresher trainings and fee payments to maintain each individual certificate. The disciplines certified by MDH are as follows:

- **Asbestos Contractor**

Asbestos contractors must complete the annual MDH license application which asks for company worker compensation and what types of services the company will offer. Asbestos contractors must ensure they complete this checklist for all projects completed on our campuses. A copy should be given to the Asbestos Coordinator.

<http://www.health.state.mn.us/divs/eh/asbestos/prof/asbprjchklist.pdf>



- **Asbestos Inspector**
Asbestos inspector means an MDH certified individual who inspects a site for the presence and condition of asbestos-containing material, or who re-inspects a site to assess the condition of previously identified asbestos-containing material or the presence of other asbestos-containing material.
- **Asbestos Management Planner**
Asbestos management planner is an MDH certified individual as defined in Minnesota Statutes, section 326.71, subdivision 4c.
- **Asbestos Project Designer**
Asbestos project designer is an MDH certified individual as defined in Minnesota Statutes, section 326.71, subdivision 4d, and who is certified under part 4620.3350.
- **Asbestos Site Supervisor**
An MDH certified individual who supervises asbestos-related work or has the authority to act as the agent of the asbestos contractor at the asbestos work area.
- **Asbestos Worker**
Asbestos worker is an MDH certified individual trained to perform asbestos abatement work, including encapsulation, removal, and clean up.

Subpart M. EPA

The United States Environmental Protection Agency

Subpart N. Friable

Material which is capable of being crumbled, pulverized or reduced to powder by hand pressure when dry, or which under normal use or maintenance emits or can be expected to emit fibers into the air.

Subpart O. MDH

The Minnesota Department of Health. The MDH certifies all individual asbestos related tasks.

Subpart P. OSHA

Occupational Health and Safety Administration.

Subpart Q. OSHA Asbestos Work Classes

The following are OSHA's asbestos work classes:

- **Class I asbestos work** means activities involving the removal of TSI and surfacing ACM and PACM.
- **Class II asbestos work** means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.
- **Class III asbestos work** means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.
- **Class IV asbestos work** means maintenance and custodial activities only where work does not disturb ACM/PACM. This includes work listed in Part 6 of the manual.



Subpart R. Project Manager-Construction

The campus project manager-construction is tasked with contracting for a variety of construction related work. Working with the asbestos administrator, the Project Manager will contract for asbestos assessment and abatement work.

Subpart S. Repair

Any work activity that will disturb ACM/PACM or an activity returning damaged ACM/PACM to an undamaged condition or to an intact state so as to prevent fiber release. Repair is considered Class III work.

Subpart T. Safety Administrator:

Person responsible for campus wide environmental & occupational safety and compliance.

Subpart U. Thermal System Insulation

Thermal system insulation (TSI), is ACM/PACM applied to pipes, fittings, boilers, breaching, tanks, ducts or other structural-components to prevent heat loss, gain or water condensation.

Part 5. Responsibilities**Subpart A. Campus President**

The campus president has the following responsibilities:

- Overall responsibility for the health and safety of all building occupants
- Ensure a full facility assessment is completed of the entire campus
- Duty to delegate the role of Asbestos Coordinator to a full-time employee

Subpart B. Asbestos Coordinator

The asbestos coordinator has the following responsibilities:

- Implementing the Minnesota State (Campus Specific) Asbestos Operating Instruction and Technical Manual
- Being designated as the point of contact on all asbestos related issues
- Performing asbestos work reviews, which requires, if possible, to become MDH certified as an Asbestos Supervisor. If not possible, utilize a licensed Asbestos Contractor for work order reviews. **(See Part 6)**
- Working with facility staff, construction program managers, and the systems office to ensure full campus assessments are completed of all building materials
- Compiling all the campus asbestos assessment and asbestos abatement reports into one centralized location on campus. Reviewing the reports to determine the following:
 - Locations, condition and quantity of ACM/PACM
 - Locations and quantity of ACM/PACM abated
 - Locations, condition and quantity of ACM/PACM left in place
 - Ensuring accessible and friable ACM/PACM are labelled and building occupants are made aware of the friable ACM/PACM
 - Confirming Asbestos contractors used for assessment and abatement projects were licensed by MDH and utilized MDH certified workers to perform asbestos tasks



- Confirming on abatement projects, that contractors notified MDH and MPCA about the asbestos related work. Also confirming all waste ACM/PACM was properly disposed of
- Reviewing all asbestos work activities involving building materials to determine the following notification to the responsible party:
 - If the area was previously assessed for asbestos. If not, notify the need to assess for asbestos before start of work
 - If ACM/PACM is present in any of the materials, determine the following:
 - If the work will disturb ACM/PACM, notify the asbestos abatement contractors that they must remove the ACM/PACM
 - If work will not disturb ACM/PACM, notify the required precautions
- For asbestos work activities to be performed by campus staff on or near ACM/PACM, ensure the request meets the Class IV work definition
- Informing Building Occupants about the following:
 - The requirements of the Asbestos Technical Manual
 - The presence of ACM/PACM in their classroom, work area, common areas, etc.
 - Any asbestos related work which may impact their daily routine
 - The need to notify the Asbestos Coordinator about damaged ACM
- Performing or scheduling initial asbestos training and refresher training for building occupants

Subpart C. Building Occupants

Building occupants, as defined in **Part 4, Sbprt.K** of this technical manual, have the following responsibilities:

- Comply with Asbestos Technical Manual instructions
- Avoid disturbing ACM/PACM, such as ceiling tile, floor tile or insulation
- Contact Asbestos Coordinator if ACM/PACM is disturbed, is in disrepair or if any actions must be taken with the ACM/PACM
- Notify Asbestos Coordinator about damaged ACM/PACM

Subpart D. Asbestos Contractors

Asbestos contractors employed by the campus to perform asbestos related work are responsible for the following:

- Comply with Asbestos Technical Manual instructions
- Contractors must be licensed by MDH
- Personnel they employ must be certified by MDH to perform the assigned asbestos related tasks
- All work must be done in compliance with all asbestos management regulatory requirements
- Contractor must provide to the Asbestos Coordinator, copies of documentation for all asbestos related tasks. The documentation must include information as shown in Part 6 Subpart A. Asbestos Assessment and Asbestos Abatement.

Subpart E. General Contractors and subcontractors

General contractors and their subcontractors performing NON-asbestos related work are responsible to do the following:



- Comply with Asbestos Technical Manual instructions
- Request to review asbestos assessment reports for any building materials in their work area
- Avoid disturbing known ACM/PACM
- Stop work if they encounter building materials which were not assessed

Subpart F. Facility Personnel (Such as the Facility Director, Physical Plant Director, Safety Officer and/or Campus Construction Project Manager)

Depending on the size of the campus, there may be a variety of job positions which have duties and responsibilities related to building maintenance projects. These responsibilities include:

- Comply with Asbestos Technical Manual instructions
- Determine if project work may impact ACM/PACM, and if they do submit asbestos work documents for review by the Asbestos Coordinator
- Ensure no work is started by campus staff or contractor until the review is completed
- Monitor project to ensure scope of work has not changed

Part 6. Campus Asbestos Work Review System

The campus asbestos work review system must provide notification to the Asbestos Coordinator about upcoming projects involving contact in any manner with building materials. The project plans must be reviewed by the Asbestos Coordinator. The purpose of the review is to determine if the project area has been assessed for asbestos, if ACM/PACM has been identified in the project area, and if ACM/PACM's will be moved, touched, or impacted in any way. This includes, but is not limited to the following tasks:

- ❖ Moving ceiling tile to perform any type of task (run cable, electrical work, plumbing work, etc.)
- ❖ Replacing or reattaching floor tile, carpet or linoleum
- ❖ Drilling through walls, floors or ceilings
- ❖ Any work with pipe insulation or other types of insulation
- ❖ Removing or re-applying caulk to doors, walls, ceilings and windows
- ❖ Removing or re-applying of window glazing
- ❖ Vehicle brake and clutch work

Subpart A. Asbestos Work Review Process

The Asbestos Coordinator must utilize past asbestos assessment and asbestos abatement reports when reviewing asbestos work documents. The following is a recommended review process:

- ❖ Determine if the work area has been assessed for asbestos and how long ago was the assessment.
 - If the area has not been assessed, then a licensed asbestos contractor must assess building materials for asbestos. See **Part 6, Subpart B**.
 - If the assessment is more than 10 years old and/or if any remodeling or renovation was completed in the area, then an updated assessment should be performed by a licensed asbestos contractor.
 - Assessment reports must be provided to Asbestos Coordinator and the review process must be repeated.
 - If the area was assessed and no ACM/PACM was found, then the Asbestos Coordinator must share this information with all impacted parties.
- ❖ If ACM/PACM is present in the project area, then determine the following:
 - If only custodial work on intact ACM/PACM is being performed, see **Part 6, Subpart E**.
 - If vehicle repair training on intact ACM/PACM is being performed, see **Part 6, Subpart E**.



- If project will impact ACM/PACM, then a licensed contractor must abate material or an alternate project plan must be developed which will avoid contact with ACM/PACM. See **Part 6, Subpart C**.
- If project will not impact ACM/PACM, then personnel must be instructed to avoid contact with ACM/PACM at all times.
- If scope of work changes, ACM/PACM is accidentally impacted or if unknown materials are uncovered then the project must immediately STOP. The Asbestos Coordinator must be contacted and the review process repeated.

Subpart B. Contract Report Requirements for Asbestos Assessment Work

Final reports generated by Asbestos Contractors for asbestos assessment must contain the following information at a minimum:

- ❖ Copies of contractor license and worker certifications
- ❖ Copy of the laboratory analysis results
- ❖ Summary of findings listing location, quantities and condition of all ACM/PACM found during the assessment
- ❖ Facility drawings at the time of the work, denoting locations where ACM/PACM was found. This information is key to a successful asbestos program.

Subpart C. Contract Report Requirements for Asbestos Abatement Work

Abatement Report. The asbestos abatement report at a minimum must contain the following information:

- ❖ Copies of contractor license and worker certifications
- ❖ Copy of asbestos assessment report
- ❖ Summary of ACM/PACM removed, listing location and quantities
- ❖ Summary of ACM/PACM left in place, listing location and quantities. The condition of the leftover ACM/PACM must also be included in the summary. If TSI is left in place, asbestos warning labels must be affixed to pipe runs, elbows, etc.
- ❖ Copy of MDH/MPCA abatement notification report, along with any amended copies generated during the project
- ❖ Daily sign in and sign out logs
- ❖ Asbestos project plan (with drawings and tables),
- ❖ Negative air pressure measurements,
- ❖ Copies of waste disposal paperwork, to include manifests or other shipping documentation
- ❖ used by contractors

Subpart D. Non-allowable asbestos work (Class I-III)

Any work on friable ACM/PACM must be performed by Asbestos Contractors. This also includes work which will cause damage to non-friable ACM/PACM, such as drilling through ACM/PACM floor tile. The MDH considers this as regulated work and OSHA considers it as Class II work.

Subpart E. Allowable asbestos work (Class IV)

Regulatory agencies limit the amount and type of work with ACM/PACM, which can be performed by non-asbestos contractors. The EPA and OSHA call it Class IV work; whereas, the MDH limits allowable work to



working with non-friable ACM/PACM only and by limiting the amount of work which can be performed during a calendar year. (See: **Part 4, Subpart H**)

Types of work and training requirements are listed below.

- **General custodial maintenance of ACM/PACM flooring materials**

There are some general custodial maintenance procedures which are allowed and not allowed for ACM/PACM flooring material. Below are these procedures:

- Sanding of ACM flooring material is prohibited
- Stripping finishes on ACM/PACM flooring material must be done utilizing wet methods and low-abrasion pads at speeds less than 300 RPM
- Applying sufficient finish to flooring material to ensure burnishing or buffing does not impact or damage the actual flooring material
- Reattaching loose ACM/PACM floor tile is allowed as long as tile remains intact during the entire process. If the tile is broken or breaks when picked up, then the MDH considers the floor tiles as work with friable materials

- **Automotive, Heavy Equipment & Mechanic Shop Programs**

Any heavy equipment, automotive or farm shop program that performs work on more than five brake or clutch jobs per week, requires the use of one of the following work practices or an equivalent method such as the spray can/solvent system.

- **Negative-Pressure Enclosure/HEPA Vacuum System Method:**

This type of enclosure and vacuum system has a special box with clear plastic walls or windows, which fits tightly around a brake or clutch assembly to prevent asbestos exposure

- **Low Pressure/Wet Cleaning Method:**

This specially designed low-pressure spray equipment wets down the brake assembly and catches the runoff in a special basin to prevent airborne brake dust from spreading in the work area. If you work in a commercial automotive shop that performs work on no more than five brake or clutch jobs per week, OSHA regulations allow the following method instead

- **Wet Wipe Method:**

This method involves using a spray bottle or other device capable of delivering a fine mist of water, or amended water (water with a detergent), at low pressure to wet all brake and clutch parts. The brakes can then be wiped clean with a cloth

- **Training Requirement for Allowable Operations (Class IV Asbestos Operations)**

Asbestos awareness training must be provided to employees whose job tasks include custodial work, facility maintenance work, electrical work and IT work. Annual refreshers are mandatory.

The Asbestos Awareness training will include (but is not limited to):

- Purpose of the Asbestos O&M Technical Manual
- Asbestos characteristics and typical uses of asbestos in building materials
- Health effects of asbestos exposure and the combined effects of smoking and asbestos exposure
- Summary of known and likely locations



- Recognition of damaged ACM/PACM
- Requirement to submit for Asbestos Coordinator review, any work activities which has the potential to disturb asbestos building materials

Part 7. Signs and Labels

The doors to mechanical rooms/areas in which employees reasonably can be expected to enter and which contain ACM/PACM, must have asbestos warning signs or labels posted. Employees must be made aware of the ACM/PACM which is present, its location, and appropriate work practices which, if followed, will ensure that ACM/PACM will not be disturbed. The campus must ensure employees comprehend these warnings. This can be done with pictographs, graphics, and awareness training.

- **Labels on Asbestos Product and Waste Containers**

Ensure that bags or containers of protective clothing and equipment, scrap, waste, and debris containing asbestos fibers are labeled. Labels must be printed in large, bold letters on a contrasting background. Labels must be used in accordance with the requirements of 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard.

- **Friable ACM/PACM**

Access to friable ACM/PACM, such as ceiling tile and pipe insulation, must be placed off limits to non-asbestos certified personnel. If ceiling tile does not contain asbestos, but pipe runs above the ceiling is ACM/PACM, then this ceiling tile is also off limits to non-asbestos certified personnel. Areas where labels must be affixed and clearly visible are on thermal system insulation (TSI) on pipes and pipe elbows, or on other friable ACM/PACM which is above false or drop in ceiling areas. These are areas often accessed by IT personnel, electricians, facility personnel or contractors.

Friable ACM/PACM located in hallways, classrooms, dining halls, libraries, administrative offices, etc. are of particular concern. The campus must take precautions to ensure building occupants do not tamper with or come into unnecessary contact with these materials. This information can be communicated in one of two ways, either verbal communication to anyone who has the potential of interaction with friable ACM (IT, Electricians, Plumbers, Faculty, Facility Staff, etc.), or asbestos warning signs or labels must be placed on the friable ACM/PACM.

- **Areas with damaged ACM/PACM**

Entrance into areas on campus where damaged ACM/PACM is located, must be restricted authorized personnel only. Asbestos warning signs must be posted near the entrance into the area and/or on the damaged material. Campus personnel must be warned not to tamper with the damaged ACM/PACM, and the asbestos work review process must be immediately initiated, to have the damaged material either repaired or abated. In both cases this work must be done by contractors, licensed and certified to perform asbestos work.

