

## **ASBESTOS OPERATIONS & MAINTENANCE PLAN**

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### **1. Introduction**

The Catholic University of America (CUA) is committed to handling asbestos-containing materials (ACMs) in its facilities in an environmentally sound manner. This commitment includes maintaining ACM in good condition and minimizing exposure to all personnel until ACM is removed. To accomplish this, the CUA Operations & Maintenance (O&M) Program must be systemic and provide appropriate channels of communication. It must also alert maintenance/custodial personnel, contractors, and building managers to the locations of ACM within the facility.

The ability to assess any condition and minimize exposure is critical to the O&M Program. CUA must:

- Identify the magnitude of any given asbestos related problem;
- Know the capabilities of the maintenance/custodial staff; and
- Take the appropriate steps for corrective action.

All activities pertaining to the O&M Program should be carefully documented in writing and filed in a central location for future reference. Emphasis should be placed on:

- Training;
- Respiratory protection; and
- Safe, state-of-the-art work practices.

All known or assumed ACMs must be included in the implementation of this O&M Program. Information regarding all known or assumed ACMs is available through the CUA Environmental Health & Safety (EHS) office.

## **2. Objectives/Purpose**

The purpose of this O&M Program, along with the asbestos management portions of the CUA Environmental Health & Safety Manual and the CUA Contractor Safety Guide, is to implement a state-of-the-art control program to prevent the exposure of building occupants and workers to asbestos fibers. Procedures are designed to be in compliance with District of Columbia (DC) regulations, Occupational Safety & Health Administration (OSHA) standards governing the operation of buildings with ACM, Environmental Protection Agency (EPA) renovation and demolition standards, Department of Transportation (DOT) rules regarding the packing and transport of asbestos waste, and other guidelines related to the conduct of O&M Programs.

This Program will alert workers and building occupants to the location of ACM, establish a process that assures ACM is not disturbed during building repairs and renovations, and periodically re-inspect areas where ACM is located to determine if the ACM is deteriorating or being disturbed.

Revisions in this Program should be made in response to any new regulatory requirements or to reflect changes in state-of-the-art asbestos management. Implemented properly, this O&M Program will ensure prudence while managing ACM in CUA facilities.

The objectives of this Program are to:

- Identify the location of ACM to occupants and workers;
- Assure appropriate training for staff and other personnel;
- Identify the limitations in scope of work custodial staff may conduct;
- Develop an emergency response team;
- Develop protocols for building maintenance, cleaning and emergency responses;
- Assure the health and safety of personnel during O&M procedures;
- Assure compliance with Federal and local regulations; and
- Develop recordkeeping and documentation procedures.

## **3. Responsibility**

An effective O&M Program must be jointly implemented from all management levels of affected departments, including but not limited to:

- Environmental Health & Safety;
- Facilities Maintenance & Operations (FMO);

- Facilities Administration & Services (FAS); and
- Facilities Planning & Construction (FPC.)

The success of this O&M Program relies on the active participation of all members of the departments listed above.

#### **4. Training, Respiratory Protection, Medical Surveillance**

Select CUA personnel who work in areas which contain ACM should receive asbestos hazard awareness training upon employment and annually thereafter to prevent uncontrolled disturbance of ACM. Such training shall be provided by EHS to select members of FMO, FAS and FPC as needed. Training shall include the potential adverse health effects of asbestos exposure, the known locations of ACM in campus facilities, and how to recognize and report damaged ACM.

When an employee is exposed to concentrations of airborne toxic materials that are above the maximum standards established by OSHA, regulations require implementation of feasible engineering controls and/or administrative controls to reduce employee exposure. For situations where such controls may not be feasible, the issuance of personal respiratory protection equipment is necessary. If necessary, the use of respiratory protection equipment by CUA personnel shall be managed in accordance with the CUA Respiratory Protection Plan, as published in the CUA EHS Manual, Section 10. Any employee who disturbs or handles ACM, or works in an area where ACM is being disturbed or handled, should be included in the respiratory protection program.

Medical surveillance is required for employees who are exposed to asbestos fibers in concentrations greater than 0.1 fibers per cubic centimeter of air as an eight-hour time weighted average or greater than 1.0 fibers per cubic centimeter over a thirty minute exposure period. For affected employees, the medical surveillance program will be used to determine baseline health status prior to the start of asbestos work activities and will monitor their health during employment. Employees in the surveillance program shall be given pre-placement, annual, and termination examinations by an appropriate licensed health care provider.

#### **5. ACM Identification, Labeling and Monitoring**

Suspect materials shall be appropriately sampled and analyzed for asbestos content prior to any activities which may result in disturbance. Individuals performing sampling activities shall maintain the necessary EPA certification as an asbestos inspector, and laboratories shall be accredited under the National Voluntary Laboratory Accreditation Program.

ACMs in routine maintenance areas must be labeled in accordance with 29 CFR 1910.1001.

Periodic surveillance is needed to document the condition of ACM in campus facilities. Surveillance of all known or assumed ACM should be conducted at least annually by EHS representatives and documented in writing. The documented results of the periodic surveillance shall be disseminated to affected parties including relevant FMO personnel and building administrative staff.

## **6. Abatement Activities**

When renovation or repair projects will result in the removal of at least 160 square feet, 260 linear feet or 35 cubic feet of ACM, advance notifications must occur as necessary to the relevant government authority at least ten days before work begins and permits obtained as necessary. The projected cumulative total of removal in the facility over the course of the calendar year should be considered in determining whether the notification and permitting requirements are applicable. Building occupants shall receive written advance notice of large-scale asbestos abatement operations at least 30 days prior to the planned start of work.

Abatement projects shall be conducted by appropriately trained and licensed companies and workers in accordance with applicable local and federal regulatory requirements.

Requirements for negative pressure enclosures include, but are not limited to:

- Adequate signage to include DC-required signage at the entrance to the building and OSHA-required signage and a copy of the abatement permit if necessary at the entrance to the asbestos work area(s);
- Isolation of the air handling systems using lock-out methods;
- Deactivation of electrical circuits if not equipped with ground fault circuit interrupters;
- Physical containment with the use of polyethylene sheeting of at least 6 mil thickness (using two layers on critical barriers such as ventilation openings) with a three-stage decontamination chamber for entry and exit to/from the work area;
- Negative pressure of at least -0.02" water column and at least four air changes per hour; and
- Independent project oversight by an industrial hygiene contracting firm to include regular work area inspections and air monitoring.

Abatement work practices shall involve the use of wet methods and amended water; HEPA vacuuming; proper encapsulation; and prompt clean-up and disposal of waste products. Safety Data Sheets for all products utilized during the abatement process, such as surfactants, encapsulants, mastic removers, etc. shall be maintained on-site for the duration of work.

Asbestos-containing debris and contaminated waste including polyethylene sheeting, rags, mop heads, contaminated personal protective equipment, etc. shall be disposed of in accordance with EPA and DC requirements. Waste shall be double-bagged in 6-mil plastic, puncture-resistant bags, sealed and appropriately labeled in accordance with applicable OSHA and DOT requirements to include identification information of the waste generator (CUA). Waste material shall be transported in a

covered vehicle to an approved asbestos landfill. Asbestos-containing waste is an ORM-E shipment and a proper manifest must accompany amounts over one pound.

Final clearance air monitoring to permit re-occupancy of the asbestos work area shall only be performed following a visual inspection of the work area to verify that no visible traces of asbestos remain. Re-occupancy is permitted for air sample results of less than 0.01 fibers per cubic centimeter of air as determined by Phase Contrast Microscopy/NIOSH method 7400 or less than 70 structures per square millimeter as determined by Transmission Electron Microscopy. Final clearance sample collection shall be performed in accordance with all local DC requirements, and sample results must be transmitted to the relevant DC regulatory agency within 24 hours when required.

## **7. Emergency Response – Fiber Release Episodes**

In the event of an unplanned fiber release episode, immediate action must be taken to prevent the building occupants and employees from exposure to airborne asbestos fibers. Minor fiber release episodes shall be defined as the accidental dislodging of less than three square or linear feet of friable ACM. Major episodes may involve greater than three square or linear feet of friable ACM.

Appropriate personnel shall be notified of fiber release episodes upon discovery to institute necessary response actions. Such personnel shall include representatives from EHS and FMO. Access should be restricted to affected areas until repairs and subsequent air monitoring are completed. Major fiber release episodes may require additional response actions including, but not limited to, lock-out/tag-out of air handling systems which recycle air; water shut-offs in the case of failing pipes, etc.

## **8. Recordkeeping**

At a minimum, detailed documentation shall be maintained of the following:

- Employee training;
- Sampling data of suspect asbestos-containing building materials;
- Medical surveillance activities;
- Respirator fit tests; and
- Abatement and air monitoring activities.