ENVIRONMENTAL OPERATIONS & MAINTENANCE GUIDANCE MANUAL

I. INTRODUCTION

BACKGROUND INFORMATION ON ASBESTOS AND LEAD BASED PAINT

Asbestos

Asbestos is a naturally occurring fibrous mineral that is mined from certain geologic formations. Asbestos became a popular commercial product, dating back to the early 1900s, because of the produces capacity to insulate, resist heat and corrosion and overall strength and durability. Its use became increasingly popular during the period between 1940 and 1970.

Since the mid-1970s, the use of asbestos has steadily declined due to concerns over human exposure and its related health effects. Several types of asbestos were banned by the Environmental Protection Agency (EPA) during the 1970s, such as spray-applied insulation, fireproofing and acoustical surfacing material. The Asbestos Ban and Phase-down Rule of 1989 was designed to essentially ban all types of asbestos-containing material (ACM) in the United States by the year 1997. However, some limited commercial use of asbestos will likely continue.

The EPA has estimated that friable (easily crumbled by hand pressure) asbestos can be found in approximately 700,000 public and commercial buildings in the United States. **Asbestos can be found in a variety of building products including, insulation for mechanical components (thermal system insulation), fireproofing, acoustical and decorative treatments for ceilings and walls (surfacing materials), roofing materials, floor coverings and ceiling or wall panels (miscellaneous materials) to name a few.**

Asbestos is of particular concern when it is damaged or easily susceptible to damage (friable or potentially friable materials). Intact, well-maintained and non-friable ACM's do not cause much concern unless they are disturbed by construction or maintenance activities. **However, in order to control potential exposure to asbestos**

fibers, it is essential that all asbestos be identified in a facility, repaired if needed, or otherwise managed in place until abatement is either necessary or desired.

Lead-Based Paint

From the early 1900s, lead was added to paint, as a bonding agent and preservative. Adding lead to paint made the paint more durable. Most enamel paint manufactured during the early and mid-1900s contains lead. Approximately ninety percent of the houses built before 1978 contain significant amounts of lead-based paint (LBP). In 1978, the Consumer Product Safety Commission lowered the maximum allowable lead content in paint to 0.06% by weight. Based on the practical elimination of LBP in 1978, the EPA does not anticipate housing units built after 1978 to have a lead paint risk. However, the practical elimination of lead paint in 1978 did not address the risk from deteriorating LBP found in housing units built before 1978.

HEALTH ISSUES

Asbestos

Exposure to asbestos fibers can cause serious health problems. **Three well-known diseases are related to the inhalation of asbestos fibers: asbestosis (a fibrous scarring of the lungs), lung cancer and mesothelioma (a cancer of the lining of the chest or abdominal cavity).** These diseases can take many years to develop in an individual previously exposed to asbestos.

Traditionally, asbestos diseases have been associated with long-term and elevated exposures to asbestos fibers. The risk of short-term, low level exposure continues to be evaluated by medical experts. In general, since their jobs usually bring them in contact with ACM, the risk of asbestos exposure for maintenance and custodial workers is thought to be greater than that of building occupants. However, potential ACM exposure to building occupants should not be overlooked.

Whether or not someone will contract a disease as a result of exposure to asbestos is dependent on numerous factors. It is, therefore, important to remain cautious and handle all ACM with care.

Lead-Based Paint

During the early 1960s, health officials became alarmed with the increasing occurrence of childhood lead poisoning cases. The Center for Disease Control (CDC) Lead Poisoning Health Study found that one in every four children living in urban areas had elevated levels of lead in their blood stream, which may cause adverse health effects. Lead is toxic to the body, and it directly impairs the body's nervous system. Health studies determined that children with elevated lead blood levels have health problems such as lower intelligence and IQ scores, learning and reading disabilities, and reduced muscular reflexes. Department of Housing and Urban Development (HUD) studies discovered that children were inadvertently ingesting lead dusts dispersed within living spaces that were generated by the deterioration of LBP. It was found that lead paint could be released into the air by friction from the mere opening and closing of windows and doors, as well as deterioration. Children living in such units were ingesting lead, which was eventually absorbed into the blood stream, impairing the nervous system. Children typically ingest lead by hand-mouth action.

Operations and Maintenance Plans

EPA defines an Operations and Maintenance (O&M) Plan as "a formulated plan of training, cleaning, work practices and surveillance to maintain hazardous building materials (ACM & LBP) in good condition." O&M Plans are therefore an economic alternative to removal (abatement) of hazardous building materials. If a building's occupants and staff are properly prepared regarding the issues associated with managing ACM or LBP in place, the potential for release of asbestos fibers or lead dust into the environment is minimized and consequently, the health risk to building occupants can be reduced to a negligible level. An O&M Plan is the "plan" for "managing hazardous building materials in place." While it is not the only option to evaluate, financial considerations often make the in-place management of hazardous building materials the most desirable choice in addressing ACM or LBP in a facility.

While this document does discuss all of the major categories of ACM and LBP found in buildings, it will focus on building materials that are typically found in multi-family

housing. Please note, however, that asbestos, lead paint surveys and O&M Plans prepared for DCA must address all suspected hazardous building materials.
This document will describe:

1. *The preliminary steps to take before developing a DCA O&M Plan;*
2. *The objectives of a DCA O&M Plan; and*
3. *The steps for preparing and implementing a DCA O&M Plan.*

I. PRELIMINARY STEPS

Inspections

Prior to the development of the DCA O&M Plan, a qualified environmental professional will need to perform a thorough inspection of the facility for friable and non-friable ACM and lead-based paint, if the date of construction is consistent with the potential existence of these materials. All consultants that contract with the DCA to perform asbestos or lead paint consulting services should have the following qualifications and should have supporting documents available for review, if requested:

1. *Certified inspectors and management planners;*
2. *Registered professional engineers;*
3. *Conform to the Qualified Environmental Professional guidelines as set forth in the DCA Environmental Review Guide*

Typically, in a multi-family housing situation, at least ten percent of similarly constructed housing units should be inspected for ACM or LBP, as well as all other common building areas (clubhouse, office, etc.) on the property. Of course, this random percentage applies to buildings of the same type, which were constructed during the same phase or year. Lead-based paint (LBP) inspections should follow the EPA's latest guidance document

for pre-purchase requirements involving HUD funds. However, DCA may, at their discretion, elect to perform an alternative sampling protocol.

Many multi-family housing communities are developed during different phases of construction, which are often separated from one another by a period of years. If this is the case, the consultant should consider each phase of the community as an entirely separate area and sample representative areas accordingly.

So, it is important to interview a knowledgeable person at the community to obtain:

1. *Relevant information regarding building unit types;*
2. *Dates of construction;*
3. *Construction plans for review; and*
4. *A tour of the facility.*

Multiple samples of each type of suspect hazardous building material should be collected during DCA building inspections. One sample of a suspect material from a housing unit should never be considered representative of that material type for the entire facility.

Most of the ACM encountered in a multi-family housing community will be surfacing materials or miscellaneous materials, such as textured ceiling material, floor coverings, wallboard or ceiling panels, patching compounds and roofing materials. However, the inspector may encounter other suspect ACM. Generally, thermal system insulation will not be encountered in a residential setting, with the possible exception of some insulated domestic water lines.

LBP was primarily used on building materials exposed to wear, abuse or weather such as cabinets, doors and door frames, windows and window frames, trim-work or moldings, exterior siding, exterior clap boards and porches. Lead paint was added less frequently to wall and ceiling paints.

Regardless of the anticipated outcome, a thorough inspection for all suspect ACM and LBP should be performed on DCA projects. Suspect materials that are not sampled, but

which are suspect in appearance, should be considered ACM or LBP. **Material locations, accessibility, friability, current condition, potential for damage and the approximate quantity of the identified ACM and LBP should be documented in chart form and included in the inspection report.** The condition of hazardous building materials is especially important and needs to be thoroughly reviewed and documented at all locations as part of the DCA inspection.

In summary, because a properly prepared O&M Plan is dependent upon the completeness of the building inspection, the following list represents the minimum procedures to be followed when conducting a DCA inspection:

1. *Interview a knowledgeable person at the facility for information regarding dates of construction, etc.;*
2. *Review available plans and specifications for the building;*
3. *Tour representative buildings on the property;*
4. *Obtain multiple samples of suspect materials identified;*
5. *Report condition, accessibility, location and approximate quantity of ACM and LBP at each sampling location;*
6. *Obtain sample analysis services from a qualified laboratory;*
7. *In a thorough manner, report the findings of the building inspection, by providing detailed discussion of procedures and results and supporting documentation such as sample locations and lab data*
8. *Require report to be prepared by a trained asbestos and lead paint inspector and require a review by a Qualified Environmental Professional.*

After the ACM or LBP has been identified at the facility and its condition evaluated, a decision can be made regarding management in place, repair or abatement alternatives. Abatement should be considered, if construction plans are scheduled that will disturb the ACM and LBP or if significantly damaged materials are encountered during the inspection.

II. DCA O&M PLAN OBJECTIVES

The principle objective of the DCA O&M program is to minimize or eliminate exposure of all building occupants to asbestos and lead paint. To accomplish this objective, the DCA O&M Plan includes work practices that:

1. *Help to maintain ACM and LBP in good condition;*
2. *Ensure proper cleanup of hazardous dust or debris previously released and repair of damaged materials;*
3. *Minimize further release of asbestos fibers or lead dust;*
4. *Monitor periodically the condition of ACM and LBP.*

To accomplish the objectives cited above, the DCA O&M Plan should address the following three categories of hazardous building materials, if present:

- ***Surfacing Materials*** *- Examples include asbestos fireproofing, asbestos-containing decorative or acoustical treatments to walls or ceilings and lead-based paint on walls, doors, ceilings, windows or any other identified building surface.*
- ***Thermal System Insulation*** *– Examples include asbestos insulation applied to pipes, boilers, ducts and tanks.*
- ***Miscellaneous Materials*** *– Examples include asbestos floor coverings, ceiling panels, wallboard, siding and roofing products.*

Specific instructions on how to appropriately manage each of these categories, if present, should be included in the DCA O&M Plan. Certain factors such as material friability, condition and accessibility to building occupants (potential for damage/exposure) are important and will need to be considered when developing the O&M Plan. For ACM and LBP that are highly friable or damaged, limited access and

frequent monitoring may be appropriate. While in-place management is generally preferred by most, abatement may be the best option, if:

1. *The material is highly friable;*
2. *The ACM or LBP has a significant potential for damage;*
3. *The ACM or LBP is already substantially damaged; or*
4. *The ACM or LBP would be difficult to manage, from an occupant exposure point of view.*

To centralize procedures at the facility and ensure that the O&M Plan objectives are met, a recommendation to appoint a Program Manager at the property should be included in the O&M Plan. The Program Manager should be employed full time at the subject facility, but may have other duties in addition to hazardous building material management. This person will need to oversee all hazardous building material activities at the facility. A recommendation should also be included in the DCA O&M Plan to train the Program Manager in the basics of asbestos or lead paint hazards and to familiarize this person with the locations of all identified materials at the facility. The Program Manager will guide custodial and maintenance staffs, contractors, outside service vendors and residents with regard to activities that could potentially disturb asbestos or lead paint. The Program Manager will be responsible for periodic inspections of identified ACM and LBP, which will document their condition over time. When damage is observed, the Program Manager should arrange for repair or cleanup of damaged ACM or LBP and limit access to the damaged area. Further, the Program Manager will be required to keep documents and records on file of all activities relating to asbestos or lead paint issues on the property including work permits in areas containing ACM or LBP, emergency responses and the like. A maintenance supervisor or property manager usually holds this responsible position.

III. PREPARING AND IMPLEMENTING THE DCA O&M PLAN

The success of an O&M program is dependent upon its proper preparation and the commitment of key personnel at the facility to implement its procedures. In order to achieve the greatest potential for successful implementation of the O&M program, it will be important that staff properly administer the provisions of the O&M Plan. Also the building tenants and outside contractors will need to be educated on the locations of ACM and LBP and on the policies of the O&M Plan.

The preparation of the DCA O&M Plan should:

1. *Be tailored to the findings of the asbestos or lead paint inspection at the facility;*
2. *Identify the roles of responsible parties who will implement the program; and*
3. *State clearly the O&M policies and procedures for the facility.*

The DCA O&M Plan should include the following eight basic elements:

1. *Notification and Labeling*
2. *Periodic Surveillance*
3. *Controls*
4. *Work Practices*
5. *Record Keeping*
6. *Worker Protection*
7. *Training*
8. *Emergency Procedures*

Each of the eight elements should be emphasized in the DCA O&M Plan and constitute the basic core of the document. The following discussion includes the minimum requirements which should be included in the O&M Plan.

1. NOTIFICATION AND LABELING

All persons that could be potentially affected by ACM or LBP at the facility should be:

1. *Notified regarding the location of ACM and LBP;*
2. *Their potential health effects; and*
3. *Issues associated with how and why its disturbance should be avoided.*

This communication should be directed towards building residents, occupants, on-site staff and outside vendors. Not only do building occupants have the right to be informed of potential hazards in their environment but also, if notified, these persons will be less likely to disturb the ACM or LBP. A record of notices sent, meetings held and recipients of information should be kept permanently on file at the facility by the Program Manager.

Asbestos and lead paint awareness communication can be accomplished by:

1. *Conducting group meetings;*
2. *Distributing written notices; and*
3. *Posting caution signs in areas where ACM and LBP are located.*

At a minimum, potentially affected personnel and building residents should be given the following information:

1. *Instruction on the basics of exposure, including the fact that ACM and LBP are hazardous only when inhaled or ingested;*
2. *How one is to evaluate reasonable hazards presented by ACM or LBP;*
3. *The locations, types and current condition of ACM and LBP that have been identified at the community, with particular emphasis on areas that could be easily disturbed, that are in poor condition, and which present an immediate asbestos or lead paint hazard;*
4. *Activities to avoid in areas that contain ACM or LBP on the property;*
5. *The need to notify the Program Manager regarding incidents of damaged ACM on LBP;*

6. *The commitment of the management staff to closely monitor the ACM and LBP, engage in proper work practices to prevent damage to ACM and LBP and protect the health and well being of all building residents and workers.*

Establishing a comfort factor among the community residents regarding the asbestos and lead paint issues on the property and management's ability to properly handle the situation will promote trust and cooperation in the implementation of the O&M program.

Caution labeling should be placed at all entrances to areas containing ACM or LBP. It is recommended that the materials themselves are labeled as well, so that persons reading the caution signs are thoroughly advised of the potential hazards in that area. For example, these signs are often found in mechanical areas. If an area contains damaged, friable ACM or LBP, warning tape, prohibiting the access of unauthorized persons, should be placed over all access points until the damaged areas have been repaired. The entrances to these areas should be kept locked at all times, with limited access to only authorize, protected personnel.

2. PERIODIC SURVEILLANCE

Periodic surveillance to monitor the physical condition of ACM and LBP is important and should be a component of a DCA O&M Plan. The visual re-inspection should be:

1. *Performed or supervised by the Program Manager;*
2. *Photo-documented or video taped for record keeping; and*
3. *Recorded as part of the permanent records of the facility.*

In a multi-family residential setting, the re-inspection process will be time consuming, if ACM or LBP have been identified in numerous apartment units throughout the property. The condition of ACM and LBP in each and every unit should be recorded in some manner as part of the surveillance program. Informed residents could play a part in the

periodic surveillance program by filling out and returning specific questionnaires that request observation of ACM and LBP for indications of damage.

The environmental consultant should stipulate the recommended frequency of re-inspections and the procedures to accomplish those tasks in the DCA O&M Plan.

If the facility contains friable, or damaged ACM or LBP, a section of the DCA O&M Plan should include provisions for sampling and analysis of settled dust and/or periodic air monitoring to supplement, not replace, the efforts of a visual re-inspection of these areas. If air monitoring is conducted, a baseline study will need to be performed as a comparison value for future air monitoring events. Visual inspections can recognize situations and anticipate future exposure, whereas air monitoring can only detect a problem after it has occurred. However, these supplemental methods may provide management with an early warning of deterioration or disturbance of the ACM or LBP. Because of the need for particular sampling equipment and the specialized nature and training required to perform this supplemental testing, a professional engineering firm with these capabilities should be consulted to conduct these services.

3. CONTROLS

A system to control all work that may disturb ACM or LBP, should be a part of the DCA O&M Plan. An effective means towards this end is to develop a work permit system, whereby **all work requests need to be approved by the Program Manager.** The procedure of submitting work requests for approval, prior to actual maintenance or construction activities, can:

1. *Minimize unauthorized access to restricted areas;*
2. *Minimize potential disturbance of ACM and LBP; and*
3. *Reduce the possibility for release of asbestos fibers or lead paint dust.*

The Program Manager should review all work requests for the property and review the maintenance records for the facility to evaluate the potential for ACM or LBP disturbance. **If asbestos or lead paint is present in the requested work area, procedures to minimize the release of asbestos fibers or lead paint dust must be stipulated on a work authorization form.** These work conditions should include a written description of specific work practices that will and will not take place, isolation of work areas and provisions for clearance inspections prior to job completion.

The Program Manager will be responsible for insuring that contractors, who are working in areas where ACM and LBP could be disturbed, have the appropriate training, respiratory protection and that the stipulated work practices are employed during the project. The Program Manager for documenting observations of approved work activities can use a work evaluation form. The Program Manager needs to have the authority to stop all work if deviations from stipulated work practices arc observed during the project.

4. WORK PRACTICES

All DCA O&M Plans should include a section which details appropriate work practices for custodial, maintenance and construction personnel that will be working near areas which contain ACM or LBP. The work practices should be tailored to the likelihood that ACM or LBP would be disturbed.

Specific procedures to minimize and/or contain asbestos fibers and lead paint dust should be thoroughly discussed in the DCA O&M Plan. These procedures could include:

1. *Wetting ACM prior to disturbance;*
2. *Use of isolated enclosures; and*
3. *Avoidance of certain maintenance activities such as sawing, sanding, drilling, cutting, abrading, chipping or braking identified ACM and LBP.*

Additionally, cleaning practices such as dry sweeping, dry wiping and regular vacuuming of areas, where fallout of asbestos fibers or lead paint dust are possible, should be stipulated in the O&M Plan as practices to be avoided. Rather, special vacuums with high efficiency particulate air (HEPA) filters and wet cleaning methods should be employed in these areas. The purchase of a HEPA vacuum is recommended at facilities which have been identified as containing friable ACM or LBP.

Asbestos or lead paint waste (i.e., debris, dust, dirty rags, mop heads, HEPA vacuum filters) should be disposed of in a specially marked plastic bag as hazardous waste. The consultant should recommend special cleaning of potentially contaminated areas as a part of the DCA O&M Plan. A small supply of pre-labeled 6-mil-thick plastic waste bags should therefore be purchased and made available for disposal of contaminated waste.

Special cleaning techniques should supplement, not replace, repair or abatement actions.

The DCA O&M Plan should include special work practices for each type of ACM or lead paint identified at the facility as well as for each type and category of maintenance activity that is likely to be performed in that area. Different situations will require different levels of basic O&M procedures to minimize asbestos fiber or lead paint dust release. It will be up to the discretion of the Program Manager to evaluate the level of precautionary procedures that will need to be employed. For instance, there will be situations when disturbance of ACM or LBP is unlikely, those when disturbance will be possible and those when disturbance is intentional. Each situation will require different levels of precautionary work procedures.

Work procedures in some areas may only require the use of wet methods in an effort to reduce the potential for fiber or dust release. The work procedures in these areas may include wetting of the material prior to work activities, damp wiping, mopping or HEPA vacuuming. Care should be used when changing HEPA vacuum filters because of the potential for fiber release. Other work procedures may require the use of drop cloths, respirators or protective clothing. More significant disturbance activities may actually require an enclosure of the work area and the services of an abatement contractor.

Whatever the conditions may be, the DCA O&M Plan should detail specific work practices to be employed when work is being performed that could potentially disturb ACM or LBP.

All of the facility's asbestos or lead paint-related management documents should be retained in a safe and secure location at the facility. **The DCA O&M Plan should itemize particular documents that need to be retained by the facility.** Because certain exposures can have a latency period, the records should be kept for at least 30 years. Particular documents that should be retained by the facility may include:

1. *The asbestos and lead paint inspection reports;*
2. *The O&M Plan and any revisions thereto;*
3. *ACM and LBP damage and emergency response reports;*
4. *Safety equipment issued to personnel;*
5. *Work permits issued to contractors;*
6. *Training and notification sessions held and attendee logs;*
7. *Medical examination reports of personnel that work near ACM or LBP on a regular basis; and*
8. *ACM or LBP abatement or repair reports.*

The DCA O&M program should provide example record keeping forms to facilitate orderly Record Keeping procedures by the facility.

5. WORKER PROTECTION

The DCA O&M Plan should provide a worker protection program that includes provisions for respiratory protection and possibly, protective clothing, for personnel who will have regular contact with ACM or lead paint. A written respiratory protection program is required by the Occupational Safety and Health Administration (OSHA) regulations whenever an O&M Plan specifies that service workers wear

respirators or where respirators are made available to employees. A properly trained Program Manager is capable of preparing this document. Otherwise, the environmental consultant should be able to meet this need.

If substantial quantities of friable ACM or deteriorated lead paint are identified on the property then, the DCA O&M Plan should include an element for respiratory protection. It is recommended that a qualified health and safety professional (perhaps a representative from the respiratory equipment distributor) or a properly trained Program Manager provide instruction on the proper use and care of respirators. Attendees of a respirator training session should be documented. Additionally, a supply of protective clothing (disposable type suits) should be maintained on the premises in the event that certain situations arise which require their use. When in doubt about exposure during certain work operations, building owners should provide respiratory protection and protective clothing to their employees.

The DCA O&M Plan should require individuals, who have respirators available for their use, to complete a medical questionnaire and submit to medical examinations at the beginning and end of their employment period. The employer is required by law to pay for the medical examination. These procedures will provide valuable information about the individual's ability to function while wearing the respirator and document medical test information.

A wide variety of respirators are available. Only respirators that are approved for protection against asbestos fibers or lead paint dust by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA) should be recommended in the DCA O&M Plan. Generally, a half-face, negative pressure respirator should provide adequate protection to maintenance workers in the residential setting. These respirators are designed to provide a level of protection that is roughly equal to ten times that of an unprotected person. **The environmental consultant should make a specific respirator selection recommendation in the DCA O&M Plan, if conditions warrant their use.**

6. TRAINING

The DCA O&M Plan should include provisions for appropriate training of personnel who may come in contact with ACM or LBP at the facility. If these persons are not adequately trained, O&M tasks may not be performed properly or at all, possibly resulting in the spread of contamination to other areas or human exposure. The environmental consultant should provide specific guidelines in the O&M Plan for Level I Awareness Training (see below). This training should be provided by the facility's Program Manager, who should be qualified and available to conduct Level 2 training for those individuals who require more in depth knowledge on handling asbestos or lead paint at the property.

In the residential setting there are generally two levels of worker training that are considered appropriate for persons who may come in contact with ACM or LBP:

Level 1 - Awareness Training:

Involves two to eight hours of training concerning background information on asbestos or lead paint, health effects, worker protection, locations of ACM and LBP on the property, the elements of the O&M Plan and emergency response actions. This level of training is usually provided to those who will be involved in cleaning and simple maintenance tasks where ACM or LBP may be accidentally disturbed.

> *Example: Awareness training should be provided to a maintenance person who needs to replace broken or damaged ceiling tiles, behind which, is located an asbestos-containing spray-applied fireproofing material. Likewise, awareness training would be applicable to a maintenance person that is responsible for painting of interior or exterior building areas where lead paint has been identified.*

Level 2 - Special O&M Training:

Involves 16 hours of training concerning the aspects presented at Level 1 as well as coverage of regulations, work practices, waste handling and disposal, respirator use, care and fit testing, protective clothing, exercises in limited removal glove bag work, HEPA vacuum use and documentation procedures. This level of training is usually provided to maintenance workers who will be significantly involved with general maintenance and repair tasks.

> *Example: Special O&M training should be recommended for a maintenance person who removes a section of ACM pipe insulation* in *order to repair a broken pipe valve.*

A third level of training would prepare an individual to abate ACM or LBP. However, **if abatement becomes necessary, the DCA O&M Plan should recommend that the services of a qualified abatement contractor be retained.** If the abatement is not properly performed, the situation could become worse, resulting in a larger area of contamination and a potentially greater number of exposed persons.

At a minimum, the awareness training should be included as part of the DCA O&M Plan. If significant quantities of friable asbestos or damaged lead paint are identified then, the 16 hours of specialized O&M training should be recommended for select personnel.

The Program Manager should also be aware of the levels of training held by contractors who are brought in to perform various tasks that could potentially disturb the ACM or LBP. **It should be stipulated in the O&M Plan that appropriate training will be verified prior to the release of outside vendors to perform services which may disturb asbestos or lead paint.**

The DCA O&M Plan should identify the level of training required at the facility. The O&M Plan should also specify those job classifications for which training is a requirement prior to employment. The Program Manager could conduct the training at

Level 1, if they have sufficient prior knowledge regarding the training topics. The consultant that prepares the O&M document should be involved with the training session(s) because of their expertise and familiarity with the facility.

7. EMERGENCY PROCEDURES

A major fiber release for asbestos is defined by the Environmental Protection Agency (EPA) as one, which involves more than 3 square or linear feet of disturbed material. **Certain specific management practices and emergency work procedures should be outlined in the DCA O&M Plan, in the event that a release of asbestos or lead dust occurs on a DCA-funded property.** These emergency response procedures will vary according to:

1. *The amount of ACM or LBP affected;*
2. *The extent of the release;*
3. *The area in which the release has occurred;*
4. *The relationship of the release area to the air handling system of the building; and*
5. *Access to the area by building occupants.*

In general, closing doors, windows and HVAC systems to restrict airflow in the affected area should isolate areas, which have had a release of asbestos or lead dust. Signs should be posted and restrictive barriers installed that identify the problem and allow entrance only to authorized personnel. Persons that are assigned to clean up hazardous material debris should wear respiratory protective equipment and possibly protective clothing and employ specialized cleaning procedures.

Different levels of training are needed for workers involved with release episodes. The DCA O&M Plan should stipulate the level of training required. A major release will generally require abatement worker training. For this reason, an abatement contractor and a qualified engineering firm should be consulted to address these situations. For major releases, a visual inspection and clearance air monitoring should be conducted, following the removal of bulk material.

The consultant should prepare this section of the DCA O&M Plan to provide specific guidance with respect to emergency procedures that need to be employed, and also to provide the Program Manager with options regarding contacts to make when in need of assistance from abatement contractors or engineering consultants.

IV. CERTIFICATION

The DCA O&M Plan should provide a signed certification statement from the reviewing registered engineer or architect. The certification statement should be worded as follows:

I certify that this document and all attachments were prepared under my direction or supervision in accordance with the DCA O&M Guidance Manual, dated 2008, and that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Signature: _____

Printed Name: _____

Title: _____

Date: _____