Update Notice

Handbook AS-556
Asbestos Management Guide

Handbook AS-556, *Asbestos Management Guide,* has been updated through June 2000 as follows:

Chapter 3, Regulatory Issues

Effective Date	Description of Change
6/2000	Added section 3-2.1, Alternative Methods of Compliance for Installation, Removal, Repair, and Maintenance of Certain Roofing and Pipeline Coating Materials
6/2000	Added section 3-2.2, Potential Asbestos Contamination in Soft Concrete

Chapter 5, Building Surveys

Effective Date	Description of Change
6/2000	Section 5-1, Survey Requirements Added reference to end of first paragraph where to find examples of asbestos-free certification letters. Added requirements for sampling to end of second paragraph.
6/2000	Section 5-6.1, NESHAP Added clarification of when PLM and TEM testing should be done for flooring materials to end of second paragraph. Added a third paragraph concerning the sampling of wall materials.

Chapter 8, ACBM Postal Work Practices

Effective Date	Description of Change
6/2000	Section 8-1, Postal Work Limitations Added limitations on the kinds of Class III work in first paragraph. Added second paragraph concerning approval of Class III and IV work. Added third paragraph detailing the type of minor activities that are permitted.
6/2000	Section 8-2, Activity-Based Work Practice Requirements Updated the list of asbestos work practices.

Chapter 9, Postal Service Asbestos Hazard Communication and Training Requirements

Effective Date	Description of Change
6/2000	Section 9-1, Awareness Activities Added the requirement that awareness training must be understood by each employee.
6/2000	Section 9-1.1, Employee Notifications At the end of the second paragraph, added the requirement that warning signs and labels must be posted.
6/2000	Section 9-2.1, Asbestos Management, EHS11-02 (30 Hours) Changed the course title and number. Added contact information. Deleted all references to lead training in conjunction with this course.
6/2000	Section 9-2.2, Asbestos Awareness, EHS11-04 (2 Hours) Divided section into contact information and course information.
6/2000	Section 9-2.3, Maintenance Environmental Awareness, EHS02-03 (8 Hours) Divided section into contact information and course information.
6/2000	Added section 9-2.4, Asbestos Management for Contracting Officers and Contracting Officer's Representatives, 19250-00 (8 Hours)
6/2000	Added section 9-2.5, Asbestos Operations and Maintenance Worker Courses, 19564-00 (16-Hour Initial Course) and 19560-00 (4-Hour Annual Refresher Course)
6/2000	Added section 9-2.6, Class III Asbestos Competent Person Course, 19565-00 (4-Hour Initial Course, 4-Hour Annual Refresher Course); Prerequisite: Courses 19564-00 and 19560-00

Chapter 11, Fiber Release Episode Response

Effective Date	Description of Change
6/2000	Section 11-1.3, Documenting Potential Exposures … Contacts Added reference to section 12-1n.

Chapter 12, Collection of Resources

Effective Date	Description of Change
6/2000	Corrected the web site location for asbestos information in the first paragraph.
6/2000	12-1, Postal Service Materials Added two asbestos policy memoranda references to item n.
6/2000	12-3, Regulatory and Other References Added the date of the base 29 CFR Part 1926.1101 in item b. Added a reference to the final rule amendments (to the CFR referenced in item b) of September 29, 1995, as item c. Added a reference to the OSHA Hazard Information Bulletin as item d.

Asbestos Management Guide

Handbook AS-556
May 1998

SOAR
Saving Of America's Resources

UNITED STATES POSTAL SERVICE

UNITED STATES POSTAL SERVICE

Asbestos Management Guide

Handbook AS-556 May 1998

A. Purpose. The United States Postal Service is committed to providing a safe and healthful work environment for all its employees and building occupants. One method for accomplishing this commitment is to implement and maintain asbestos control programs that comply with all applicable federal and state environmental laws and regulations, including regulations established by the federal Occupational Safety and Health Administration. The Postal Service will be a leader in asbestos management, while enabling operational efficiency, promoting cost-effectiveness, and providing a safe environment.

B. Disclaimer. Handbook AS-556, *Asbestos Management Guide,* is only intended to enhance the internal management of the Postal Service and is not intended to, nor does it, create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by any party against the United States Postal Service. This handbook is not a Postal Service regulation; it concerns internal procedures and practices that do not affect individual rights and obligations, and it does not create any right to judicial review involving compliance or noncompliance with the procedures established by this handbook.

C. Contents. This handbook is a reference tool for implementing and maintaining asbestos control and awareness programs in postal facilities. It supplements Management Instruction EL-810-98-1, *Asbestos-Containing Building Materials Control Program*. The handbook represents the latest policy guidance and specific postal procedures for field implementation of asbestos management in the Postal Service. Field review and comments have been obtained. A collection of asbestos-related reference materials that will help implement the program may be found on the Postal Service's internal web site at http://blue.usps.gov/environmental.

D. Revisions. This handbook will be revised to modify asbestos policies and strategies as needed to reflect new legislation and regulations.

E. Distribution.

1. Initial. This handbook is being distributed to all Headquarters functions, area offices, customer service districts, and processing and distribution facilities.

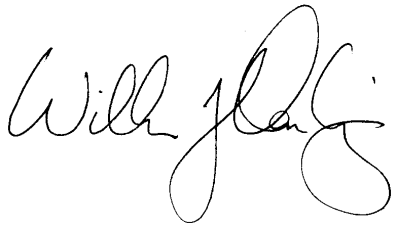
2. Additional Copies. Organizations not included in the initial distribution or those requiring additional copies should order copies from their material distribution center (MDC) using Form 7380, *MDC Supply Requisition.* The handbook is also

available on the internal web site referenced above and the external web site at http://www.usps.gov/environ.

F. Comments and Questions. If you need further clarification of the policies and procedures outlined in this handbook, send your request to:

MANAGER
ENVIRONMENTAL MANAGEMENT POLICY
UNITED STATES POSTAL SERVICE
475 L'ENFANT PLAZA SW
WASHINGTON DC 20260-2810
(202) 268-5595

G. Effective Date. These instructions are effective immediately.



William J. Dowling
Vice President
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Originally printed on recycled paper

Contents

Exhibits

1 Policy Review

1-1 Purpose

This document is a reference tool for implementing and maintaining asbestos control and awareness programs in postal facilities. It supplements Management Instruction (MI) EL-810-98-1, *Asbestos-Containing Building Materials Control Program*. The asbestos management control program is designed so that it can be revised as postal policies, laws and regulations, and guidance change. In addition, those who are responsible for asbestos control must ensure compliance with the latest federal, state, and local regulations.

Historically, the Postal Service has been actively involved with asbestos control since the early 1980s. During that time, the program was managed by three main functional areas — Maintenance, Safety and Health (S&H), and Facilities. Early in the 1990s, Headquarters formed Environmental Management Policy (EMP), which subsequently became involved in asbestos management because of regulatory requirements regarding proper asbestos control. This guide represents the efforts of the national asbestos planning committee (APC), a cross-functional workgroup formed to provide a forum for all affected *CustomerPerfect!* enabling processes in the Postal Service and to add functional value to the formulation of this guide. This guide represents the latest policy guidance and specific postal procedures for implementation of asbestos management in the field.

In April 1994, Marvin Runyon, the Postmaster General and Chief Executive Officer, signed a policy statement regarding the protection of the environment. Because of this policy, the manager of EMP at Headquarters formed a national cross-functional workgroup to develop an environmental strategic plan which extends to the year 2000. The policy statement follows, and the strategic plan can be downloaded from the Postal Service's internal Web server at http://blue.usps.gov/environmental.

1-2 Postal Service Policy for Environmental Protection — Based on National Strategic Plans

The Postal Service is committed to providing employees and customers with a safe and healthy environment. Environmental protection is the right thing to do and makes for sound business practices. The postmaster general states that the Postal Service's

efforts to protect the environment are based on the seven guiding principles of the national environmental strategic plan:

- To meet or exceed all applicable environmental laws and regulations in a cost-effective manner.
- To incorporate environmental considerations into postal business planning processes.
- To foster the sustainable use of natural resources by promoting pollution prevention, reducing waste, recycling, and reusing materials.
- To expect every employee to take ownership and responsibility for postal environmental objectives.
- To work with customers to address mutual environmental concerns.
- To measure Postal Service progress in protecting the environment.
- To encourage suppliers, vendors, and contractors to comply with similar environmental protection policies.

Note

The Postal Service's efforts to protect the environment are based on seven guiding principles.

1-3 Quality Assurance Review

The Postal Service defines environmental quality assurance as a preventive, systematic, documented, periodic, and objective review of facility operations and practices related to meeting environmental requirements. The potential benefits of an environmental quality assurance review (QAR) program may include the following:

- Reducing generated waste to the lowest practicable levels.
- Enhancing awareness to prevent environmental problems.
- Detecting potential compliance problems.
- Identifying and addressing the potential for adverse effects with respect to all environmental media.
- Defining more cost-effective measures to achieve compliance.
- Ensuring the adequacy of standard operating procedures.
- Improving environmental risk management systems by identifying conditions that could adversely affect the facility.
- Assessing the level of risk associated with problems identified.
- Training and motivating personnel to work in an environmentally acceptable manner.

- Enhancing total quality environmental management protocols and benchmarks.

1-4 Occupational Safety and Health and Asbestos

The following excerpts detail the Postal Service's position on occupational S&H in the workplace:

> I am convinced that we can provide the highest level of customer service, employee commitment, and budget achievement only when we also provide the highest level of safe working conditions and practices. Therefore, I am making a personal commitment to provide a safe and healthful postal environment for our employees and customers and to have a Safety and Health Program that is 'second to none.' All management and supervisory personnel *must* comply with all applicable safety and health regulations.
>
> –Marvin Runyon, Postmaster General

Quote

I am making a personal commitment to provide a safe and healthful postal environment for our employees and customers and to have a Safety and Health Program that is 'second to none.'

–Marvin Runyon

> The Postal Service is subject to Section 19 of Public Law No. 91–596, the Occupational Safety and Health Act of 1970. This law directs the postmaster general to establish and maintain an effective, comprehensive occupational S&H program consistent with the standards of the act.
>
> –Section 811.1, Employee and Labor Relations Manual (ELM)

> **Safety Policy.** It is the responsibility of management to provide safe and healthful working conditions in all postal-owned and postal-leased installations, educate all employees in safe work practices, and ensure that all employees work safely. Safety is an integral part of all managers' responsibilities.
>
> –Section 811.4, ELM

Asbestos Planning Committee Mission. The APC's mission was to develop a comprehensive Postal Service strategic plan for asbestos-related issues as they pertain to postal employees and other building occupants, postal facilities, and postal activities.

Problem Statement. The presence of asbestos in postal facilities may present a hazard to employees, delay repair and alteration projects, and affect equipment deployments and contractor work activities. The identification and abatement of asbestos-containing materials (ACM) are costly and represent a potential financial liability. Regulations and

policy statements are complex issues that may lead to confusion and misunderstandings.

Vision Statement. The Postal Service will be a leader in asbestos management while enabling operational efficiency, promoting cost-effectiveness, and providing a safe environment.

1-5 *CustomerPerfect!* Goals

CustomerPerfect! is a new way of doing business that helps the Postal Service meet its challenges in an increasingly competitive environment. *CustomerPerfect!* comprises the following sequence of activities: establishing direction, deploying goals and targets, implementing the plan, and reviewing progress. The *CustomerPerfect!* approach includes information on the Voice of the Customer (VOC), the Voice of the Employee (VOE), and the Voice of the Business (VOB). VOC represents an assessment of customers' various needs and expectations (i.e., customer requirements). VOE represents the needs and concerns of postal employees. VOB represents elements or factors in the industrial business environment that may shape, influence, or direct future work. In 1996, the Postal Service set goals and subgoals for each of the *CustomerPerfect!* voices as discussed in the next three sections.

1-5.1 VOC Goals

Note

Improving customer satisfaction is the VOC goal.

Improving customer satisfaction is the VOC goal, and the subgoals for VOC include:

- Timely delivery — to meet commitments to deliver mail within established standards.
- Consistency — to deliver mail at the same time each day.
- Accurate service — to deliver all mail to the right address undamaged and accurately apply postal rules and regulations the same way everywhere.
- Affordable products and services — to deliver quality products and services that customers are willing to buy at the prices charged.
- Ease of use — to provide products and services that are simple, convenient, understandable, and accessible.

1-5.2 VOE Goals

Strengthening the effectiveness of employees and the Postal Service is the VOE goal. The subgoals for VOE include:

- Dealing with poor performance and recognizing good performance — by equipping and motivating all employees to identify and fix poorly performing processes, and sharing positive feedback and recognition with individual employees and teams when they perform above expectations.
- Ensuring safety — by creating an accident-free environment.
- Demonstrating commitment — by demonstrating management's commitment to service quality.
- Enhancing workplace environment — by providing an environment that is free from sexual harassment, discrimination, substance abuse, and violence.

Note

Strengthening the effectiveness of employees and the Postal Service is the VOE goal.

1-5.3 VOB Goals

Improving financial performance is the VOB goal. The subgoals for VOB include:

- Increasing revenues — by increasing volume of profitable products and services.
- Reducing the cost of capital and operating costs — by managing both capital and operating costs to drive down the unit cost for processing each type of mail.
- Reducing negative equity — by managing financial performance so that each year produces positive net income and, therefore, recovers past accumulated losses.
- Creating new products — by providing new products and services that are competitive, innovative, and profitable and that meet the changing needs of customers.

Note

Improving financial performance is the VOB goal.

1-5.4 How This Program Fits With *CustomerPerfect!*

Managing asbestos-containing building materials (ACBMs) in postal facilities has significant links to *CustomerPerfect!* goals. Investing funds to manage asbestos in place is a good business decision and a sound investment in the postal infrastructure. The Postal Service owns or leases approximately 36,000 facilities nationwide, and most of these facilities were built when using ACBMs was a preferred means of constructing public buildings. Therefore, the estimate is that approximately 85 percent of postal buildings may contain some form of ACBM.

Fact

The Postal Service has:

- **36,000 facilities.**
- **More than 800,000 employees.**

About 85 percent of Postal Service buildings may contain ACBM.

The Postal Service has been actively involved with an asbestos control program since the early 1980s. As Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) laws and regulations have changed over the years, so has the Postal Service's program to control ACBMs in postal facilities. The facts are simple.

The Postal Service, with more than 800,000 employees, is rich in human capital. Asbestos is a known human carcinogen that is regulated only if it is airborne in quantities that exceed the permissible exposure limit (PEL) established by OSHA. In fact, the Postal Service adheres to the latest EPA guidance issued in July of 1990. In *Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials* (the Green Book), the EPA emphasizes the importance and effectiveness of a good operations and maintenance (O&M) program as a critical element of EPA's broader effort to put the potential hazards and risks of asbestos exposure in proper perspective. This effort centers around communicating the following five facts (*CustomerPerfect!* also emphasizes making decisions based on facts), which EPA hopes will help calm unwarranted fears about the mere presence of asbestos in buildings and discourage spontaneous decisions to remove all ACM regardless of their condition.

Fact One

Although asbestos is potentially hazardous, the risk of asbestos-related disease depends upon exposure to airborne asbestos fibers. In other words, to incur any chance of developing an asbestos-related disease, an individual must breathe asbestos fibers. How many fibers a person must breathe to develop a disease is uncertain. However, at very low exposure levels, the risk may be zero to negligible.

Fact Two

According to available data, the average airborne asbestos levels in buildings seem to be very low. Therefore, the health risk to most building occupants also appears to be low. A 1987 EPA study found that asbestos air levels in a small segment of federal buildings were essentially the same as levels outside these buildings. On the basis of this limited data, most building occupants (those unlikely to disturb ACBM) appear to face only a very slight risk, if any, of developing an asbestos-related disease.

The above two facts closely align with the *CustomerPerfect!* VOE subgoal of ensuring the S&H of postal employees. Preventing employee exposure to airborne asbestos fibers is the basic concept behind an asbestos control program.

Fact Three

Removal of asbestos is often not a building owner's best course of action to reduce asbestos exposure. In fact, an improper removal can create a dangerous situation where none previously existed. By their nature, asbestos removals tend to elevate the airborne level of asbestos fibers. Unless all safeguards are properly applied, a removal operation can actually increase rather than decrease the risk of asbestos-related disease.

Fact Four

EPA requires asbestos removal only to prevent significant public exposure to airborne asbestos fibers during building demolition or renovation activities. Removing the asbestos before the wrecking balls swing into action is appropriate to protect public health. At other times, EPA believes that asbestos removal projects, unless well-designed and properly performed, can actually increase health risk.

Fact Five

EPA does recommend an active, management-in-place program whenever ACM is discovered. As described in the Green Book, management-in-place does not mean doing nothing. It means having a program to ensure that personnel use proper control and cleanup procedures when asbestos fibers are released, either accidentally or intentionally, in the daily management of the building. These procedures may be all that is necessary to control the release of asbestos fibers until renovation or demolition activities threaten to disturb the ACM.

The costs associated with implementing and managing an O&M program can vary significantly depending on the types of ACBMs present, building-specific factors, actual O&M procedures adopted, types of equipment used, and the useful life of the building. Building owners may find it more cost-effective to continue a well-supervised and -managed O&M program than to incur the costs of immediate, large-scale removal. In addition to the direct costs of removal, other costs related to ACBM removal include moving building occupants, arranging alternative space for building occupants during the removal work, and restoring the building after the removal has been completed. Clearly, many factors enter into the decision. Only by conducting a cost-effectiveness analysis of the long-term options (comparing immediate removal, phased removal (plus accompanying O&M costs), and removal just before demolition (involving O&M for the building's lifetime)) will building owners truly be able to determine which option is best for their buildings. Therefore, until the Postal Service has a data analysis system and can document the level of ACBMs at which abatement is more cost-effective and safer than management-in-place,

Note

A fiber release episode has the potential to:

- **Disrupt mail delivery and acceptance operations (VOC).**
- **Directly affect customers (VOC).**
- **Increase accidents based on asbestos exposures (VOE).**
- **Increase medical surveillance requirements (VOE).**

determining which option is the best business decision will be difficult. Until experience with the process enables accuracy and efficiency in identifying this level, the performance cluster APC will make the decision at the local level.

Now that some very basic information regarding *CustomerPerfect!* has been established, it is important to examine collective leadership roles and how this particular program must be managed in order to enhance operational efficiencies.

1-6 Core Work Processes

The Postal Service has identified five core processes that are central to its daily operations. The following processes are closely related to customer satisfaction:

- Selling and marketing.
- Collecting, accepting, and inducting.
- Sorting and distributing.
- Transporting.
- Delivering.

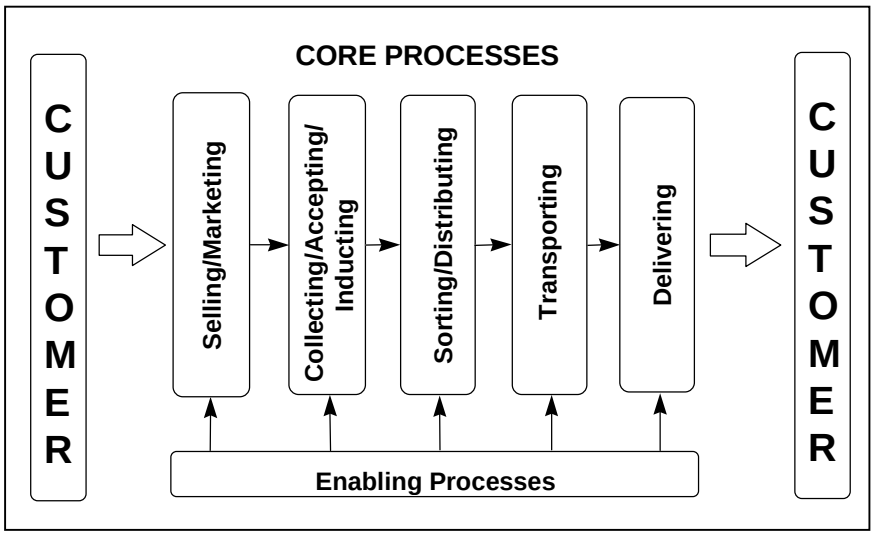
In the past, postal managers and supervisors across the country may have thought that they were accountable for perhaps only one of the core processes, such as collecting or transporting. In fact, all employees are responsible for customer satisfaction. These processes must work *collaboratively* to provide service that satisfies postal customers.

Exhibit 1-6 shows how the core processes link together to represent the core business — moving the mail. Each process depends on or provides input to the others in an effort to satisfy customers. Like any chain, the links are interdependent, and the entire process is only as strong as each of the links.

As seen in the exhibit, other work processes support the core processes. These enabling processes provide tools and resources to support the core processes. They help “fine-tune” the business. Some examples of enabling processes are discussed in the next few paragraphs.

Although EMP (under Engineering) and Safety and Workplace Assistance (SWA) (under Human Resources (HR)) formed a partnership and took a leadership role in managing this program, most of the other functional areas also had a strong presence on the national APC. Every functional area has a role in and an impact on customer satisfaction.

Exhibit 1-6, Work Processes



An examination of the first three core processes shows that identifying and properly managing and controlling this asbestos material can truly enhance Postal Service operational needs. The following processes are interdependent, and they all influence customer satisfaction:

- Selling and marketing.
- Collecting, accepting, and inducting.
- Retail store of the future.
- Lobby renovations.
- Credit card program.
- Associate office infrastructure (AOI) and point of sale (POS).

These important ongoing processes enhance the core business processes.

An example of how asbestos can affect a core process can be shown for sorting and distributing. This core process involves deploying labor hour-saving capital equipment. Installing this equipment often involves a potential to disturb ACBMs.

The Postal Service must prevent asbestos exposures to its employees. The APC does not want to sell this program on its negative aspects of inaction or as a regulatory requirement. The APC wants to use the business process approach presented earlier, recognizing that preventing a fiber release episode is vital to the customer (VOC), the employee (VOE), and the business (VOB).

1-7 Summary of the MI

MI EL-810-98-1, *Asbestos-Containing Building Materials Control Program*, establishes policy for identifying and controlling ACBM and presumed asbestos-containing materials (PACM) in postal facilities. It also delineates responsibilities at all levels of the organization and establishes administrative procedures and funding policy.

The primary policy statement of the MI is that the Postal Service will provide a safe and healthful work environment for all employees and building occupants. Management must implement and maintain an asbestos control program in accordance with this instruction. The preferred practice for ACBM and PACM is management-in-place.

Responsibilities are delineated in the MI for the following functional areas: Headquarters, areas, and performance clusters. Each of these major areas is further broken down into the various functional units necessary to implement and support the ACBM program at each organizational level. The MI describes specific organizational and functional responsibilities.

The MI also includes a detailed description of the many aspects of the area asbestos control program, including inspections, asbestos management, work practices, notifications, training, the work authorization procedure, real estate actions, medical surveillance, and recordkeeping.

The MI briefly discusses the budget process and states that funds necessary to run the program will be identified annually as part of the appropriate budgeting process.

2 Functional Implementation Guidance

2-1 Policy

The Postal Service is committed to providing a safe and healthful work environment for all employees and building occupants. Management must implement and maintain an asbestos control program in accordance with MI EL-810-98-1. Managing ACBM in place when it does not pose a risk to human health is the preferred practice.

The Postal Service is also committed to compliance with all applicable federal and state environmental laws and regulations, including regulations established by the federal OSHA. To ensure that these compliance goals are met, the Postal Service established the following minimum policy principles:

- All postal-owned or -leased space built before 1990 (see section 5-1 for details) must be surveyed for the presence of ACBM.
- An Asbestos Hazard Emergency Response Act (AHERA) accredited inspector must conduct asbestos surveys.
- AHERA-accredited management planners must develop O&M plans for facilities with ACBM.
- Persons trained to conduct visual surveillance of ACBM that have been previously surveyed and assessed must conduct 6-month surveillance of facilities that contain such ACBM. These persons need not be AHERA-accredited. (The Postal Service does not have a requirement for a 3-year reinspection of facilities with ACBM as required of schools by AHERA.)
- Bulk sampling inspection protocols must be in accordance with AHERA.
- Air monitoring for asbestos must be conducted in accordance with the sampling and analytical procedures found in EPA, AHERA, or National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations or applicable OSHA regulations, as determined by the purpose of the monitoring, e.g., assessment of ACBM or employee exposure.
- Asbestos and hazard communication training for employees and other building occupants must be provided in accordance with OSHA asbestos regulations.

- Interim procedures for worker and occupant protection will be instituted before developing and implementing a facility-specific asbestos O&M plan.

2-2 Responsibilities

This section provides the levels of responsibilities for asbestos management action from the Postal Service Headquarters level to the individual postal facility level. It also provides detailed information to facilitate coordination and implementation of asbestos management throughout these levels of the Postal Service.

2-2.1 Headquarters

The Headquarters organizations of the Postal Service are responsible for establishing asbestos policy for the Postal Service and ensuring that adequate manpower and funds are available for implementing the asbestos management program. Close coordination of the Headquarters elements is essential to make the asbestos management program work effectively. Specific responsibilities for the asbestos program at each level are listed in the following sections.

Environmental Management Policy, Engineering:

- Coordinates with Headquarters HR and other Headquarters organizations on policy and procedures regarding ACBM and PACM in buildings.
- Provides assistance on EPA and state asbestos regulations and guidelines and ensures that information regarding Postal Service asbestos policies and procedures is disseminated to the area environmental compliance coordinators (AECCs).
- Coordinates with Headquarters Finance regarding annual budget requests submitted by the areas for completion of asbestos-related activities.

Safety and Workplace Assistance, Human Resources:

- Coordinates with EMP and other Headquarters organizations to ensure that policies and procedures protect the health of postal employees and comply with OSHA regulations.
- Provides interpretations and guidance on OSHA asbestos regulations and technical assistance on employee exposure and other asbestos-related issues.
- Maintains a liaison with OSHA on compliance matters at the national level.

- Ensures that information regarding Postal Service asbestos policies and procedures is disseminated to the area human resources analysts and other S&H personnel.

National Medical Director, Human Resources:

- Disseminates SWA's policy and guidance on medical surveillance, evaluation for asbestos exposure, and other matters related to asbestos and employee health.

National Center for Employee Development (NCED), Human Resources:

- Provides asbestos training that does not require state or federal accreditation and maintains the records of such training.

Corporate Training and Development, Human Resources:

- Develops and maintains a system for field employee asbestos training and records.

Facilities:

- Coordinates with EMP and SWA and its field counterparts to ensure that all real estate actions and repair and alteration activities that are part of facility management under its control comply with this policy.
- Establishes policies and procedures consistent with Postal Service asbestos policy and area environmental strategic plans to prevent projects under its control from disturbing ACBM, to manage abatement and repair of ACBM through contracted asbestos experts, and to ensure that no new space is occupied that contains asbestos-containing surfacing materials or other ACBM in such condition that removal is necessary to protect all building occupants.

Purchasing and Materials:

- The Policy, Planning, and Diversity unit of Purchasing and Materials coordinates with EMP and SWA to ensure that all national purchasing procedures comply with this policy.
- Managers of purchasing and materials service centers implement purchasing procedures consistent with national asbestos policy and area environmental strategies.

Maintenance Policies and Programs (MPP):

- In conjunction with EMP and SWA, develops national maintenance work practices and policies for maintenance organizations regarding asbestos issues.
- Disseminates the policies to field maintenance organizations.

Headquarters field units:

- Managers of facilities service offices (FSOs) and major facilities office (MFO) follow policies and procedures to prevent projects under their control from disturbing ACBM, to properly manage asbestos abatement and repair projects, and to ensure that no new space contains prohibited ACBM or PACM.
- Managers of purchasing and materials service centers implement procedures to ensure that no projects are funded that might disturb ACBM unless provisions are made for proper controls.
- Managers of Headquarters field units ensure that policies contained in this instruction are followed in their facilities. For assistance, they should consult with their AECC and human resources analysts in their areas.

Other Headquarters functions:

- All other Headquarters functions such as Engineering, Retail, Information Systems, and Operations are responsible for planning new programs, in coordination with EMP and SWA, to ensure that they are consistent with Postal Service asbestos policy and area environmental strategic plans and to prevent projects under their control from disturbing ACBM. New programs and projects that may disturb ACBM in postal facilities nationwide must include funding to meet these requirements.

2-2.2 Areas

Specific responsibilities for asbestos policy at the area level are listed in the following sections.

Vice president, Area Operations:

- Has overall responsibility for implementing and maintaining an effective asbestos control program to ensure that the presence of ACBM in postal facilities does not adversely affect the three *CustomerPerfect!* goals.

Area environmental compliance coordinators:

- Coordinate with the area HR office to develop an areawide asbestos control program. After approval by area management, it becomes the basis for asbestos control programs at the performance cluster level.
- Provide direction and support to performance clusters regarding EPA, state, and local asbestos regulations, including:
  - Development and implementation of the area asbestos management plan.
  - Completion of asbestos surveys.
  - Preparation of site-specific O&M plans.
  - Provision for initial training for asbestos management in accordance with site-specific O&M plans.
  - Assistance with funding requirements.

Human resources analysts with S&H responsibilities:

- Coordinate with AECCs on the employee health aspects of asbestos control.
- Evaluate performance cluster, district, and plant programs for compliance with OSHA regulations and postal asbestos policies.
- Provide technical assistance and disseminate information.
- Through district and plant safety personnel, they:
  - Post analytical results in facilities as required by OSHA.
  - Respond to employee inquiries.
  - Provide for exposure evaluations.
  - Coordinate with medical personnel on medical surveillance or evaluations, as necessary, in the event of a suspected exposure of postal employees to asbestos fibers.

Manager, Maintenance Support:

- Assists the AECC in developing and reviewing maintenance requirements for the area asbestos control plan.
- Assists field maintenance organizations in meeting their responsibilities in the O&M plan.

2-2.3 Performance Clusters

Specific responsibilities for asbestos policy at the performance cluster level are listed in the following sections.

District and plant managers:

- Ensure that all facilities within the performance cluster remain in compliance with this guide so that the presence of ACBM does not adversely affect the three *CustomerPerfect!* goals.

District managers:

- Designate a district asbestos program coordinator (DAPC), taking into account local resources, individual qualifications, and prior asbestos program efforts in order to select the appropriate individual for this important task.

District asbestos program coordinators:

- Must have the skills and training to provide overall coordination, administration, and implementation of asbestos control programs for the district and plant consistent with the area asbestos program.
- Coordinate with performance cluster functional organizations to ensure that asbestos-related matters are considered in planning and executing postal programs.
- Provide technical assistance on EPA and state regulations and guidelines, where necessary.
- Submit annual budget requests for asbestos-related activities for facilities within the performance cluster.
- Maintain district asbestos control program records.
- Coordinate with the district environmental compliance coordinator (DECC), district senior safety specialist, and operations and support managers (e.g., manager of Administrative Support) for effective asbestos program management and implementation.

Manager, Administrative Support:

- Coordinates with the DAPC to set priorities for and implement asbestos-related projects and properly manage abatement and repair projects. The contracting officer must follow established procedures, including facilities procedures, to prevent projects under his or her control from disturbing ACBM.

Senior district and plant S&H specialists:

- Coordinate with the DAPC and the maintenance function to ensure that employee health is protected and OSHA regulations are followed.
- Monitor and evaluate compliance with OSHA regulations at all performance cluster facilities. Compliance elements include providing employee asbestos training, monitoring employee exposure, maintaining negative exposure assessments (NEAs), and establishing work authorization programs.

Medical personnel (nurse administrators, staff nurses, and contractor medical personnel):

- Maintain employee exposure and other asbestos-related records in employee medical folders.
- Provide medical surveillance and evaluations, as necessary, and maintain related documentation.

District environmental compliance coordinators:

- Coordinate with the DAPC to ensure that EPA and state and local asbestos regulations are followed.
- Monitor and evaluate compliance with EPA and state asbestos environmental regulations, including NESHAP, AHERA, and Resource Conservation and Recovery Act (RCRA) asbestos-related issues.

Maintenance managers:

- Ensure that all maintenance activities within the performance cluster are consistent with Postal Service asbestos policy and their site O&M plans.

2-2.4 Installation

The installation head, or designee, functions as the facility asbestos coordinator (FAC) and is the custodian of the asbestos control program records for the facility. A FAC should be designated and located at each postal facility (e.g., post office, station, branch) that contains ACBM. The FAC coordinates asbestos control for each facility with ACBM. The FAC ensures that employees are trained and follow proper asbestos-related procedures and that no project with the potential to disturb ACBM is begun in the buildings for which he or she is responsible before the proper controls are instituted. Work authorization programs must be established to prevent disturbance of ACBM. No asbestos abatement or repair activity may be contracted for

without consultation with the Administrative Support unit or FSO as appropriate.

2-3 Implementation and Process Flow

The implementation guidance for the various management levels is discussed in detail in MI EL-810-98-1, *Asbestos-Containing Building Materials Control Program*. The MI and the decision tree in Exhibit 2-3 can be used to determine implementation of the program at any functional level.

2-4 Funding Procedures and Requirements

2-4.1 New Funding Guidance

New funding guidance has been provided in the letter of August 27, 1996, Subject: Miscellaneous Account Numbers Changes (F-8-96-104). The account number changes become effective accounting period 13, postal FY96, and should be reflected on the Postal Service Financial Report Master File and the Account Master File.

2-4.2 New Subaccounts

Several new subaccounts have been created to support the Postal Service's ACBM control program, as follows:

- .092 — Asbestos Management Identification and Control — used to record expenses for consultant and professional services related to the identification, management, and control of ACM as required by OSHA. This subaccount will be used with primary accounts 52321, 52322, 52326, 52327, 52331, and 52342.
- .093 — Asbestos Management Removal and Abatement Projects — used to record expenses related to the removal and abatement projects of ACM as required by OSHA. This subaccount will only be used with primary account 52417.
- .094 — Environmental Management — used to record expenses for consultant and professional services for such other environmental program areas as lead, hazardous waste management, environmental reviews and audits, emergency response, pollution prevention, environmental awareness, radon, solid waste management, water quality, air quality studies, and other environmental management issues.

Exhibit 2-3, Asbestos Process Flowchart/Decision Diagram (Page 1)

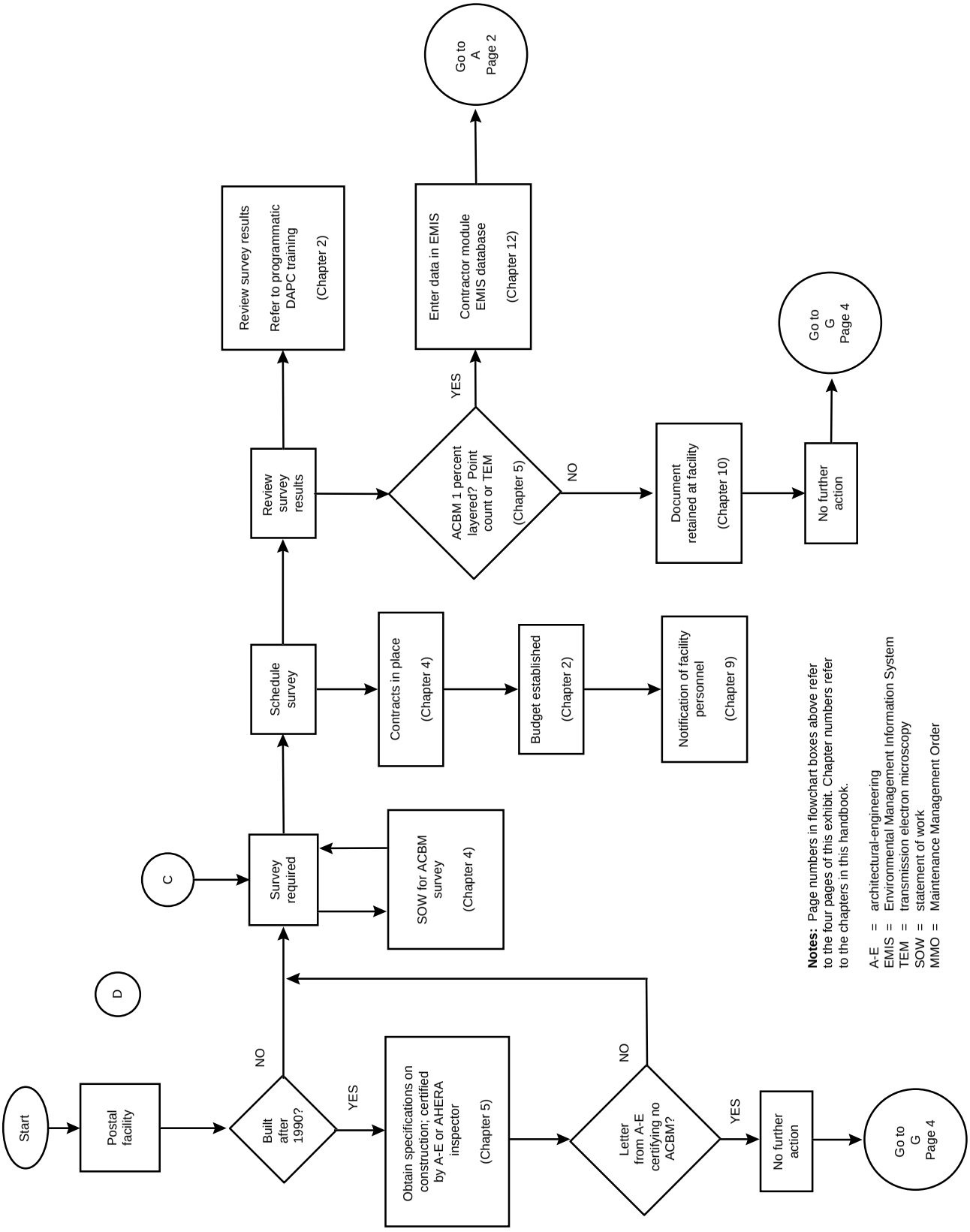


Exhibit 2-3, Asbestos Process Flowchart/Decision Diagram (Page 2)

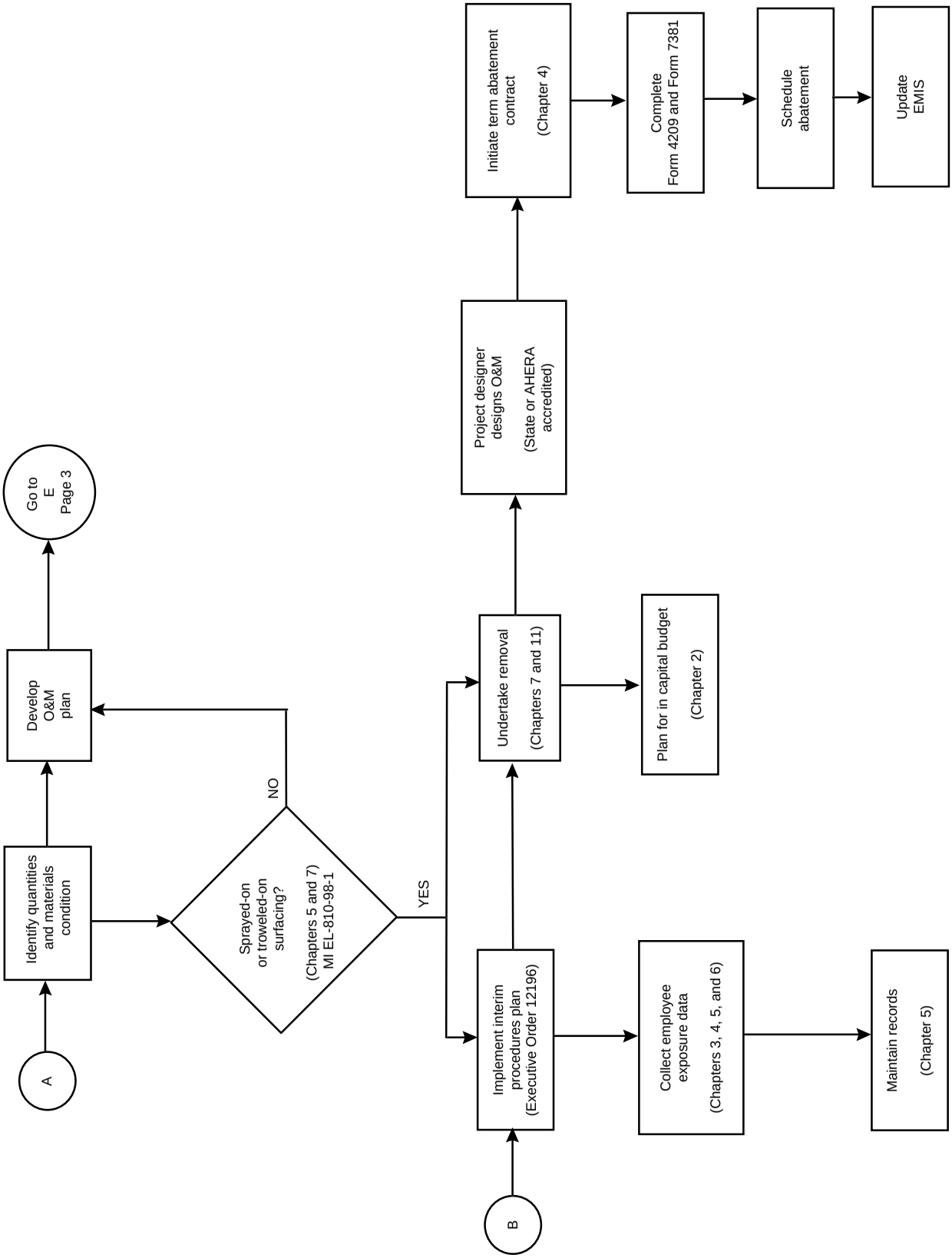


Exhibit 2-3, Asbestos Process Flowchart/Decision Diagram (Page 3)

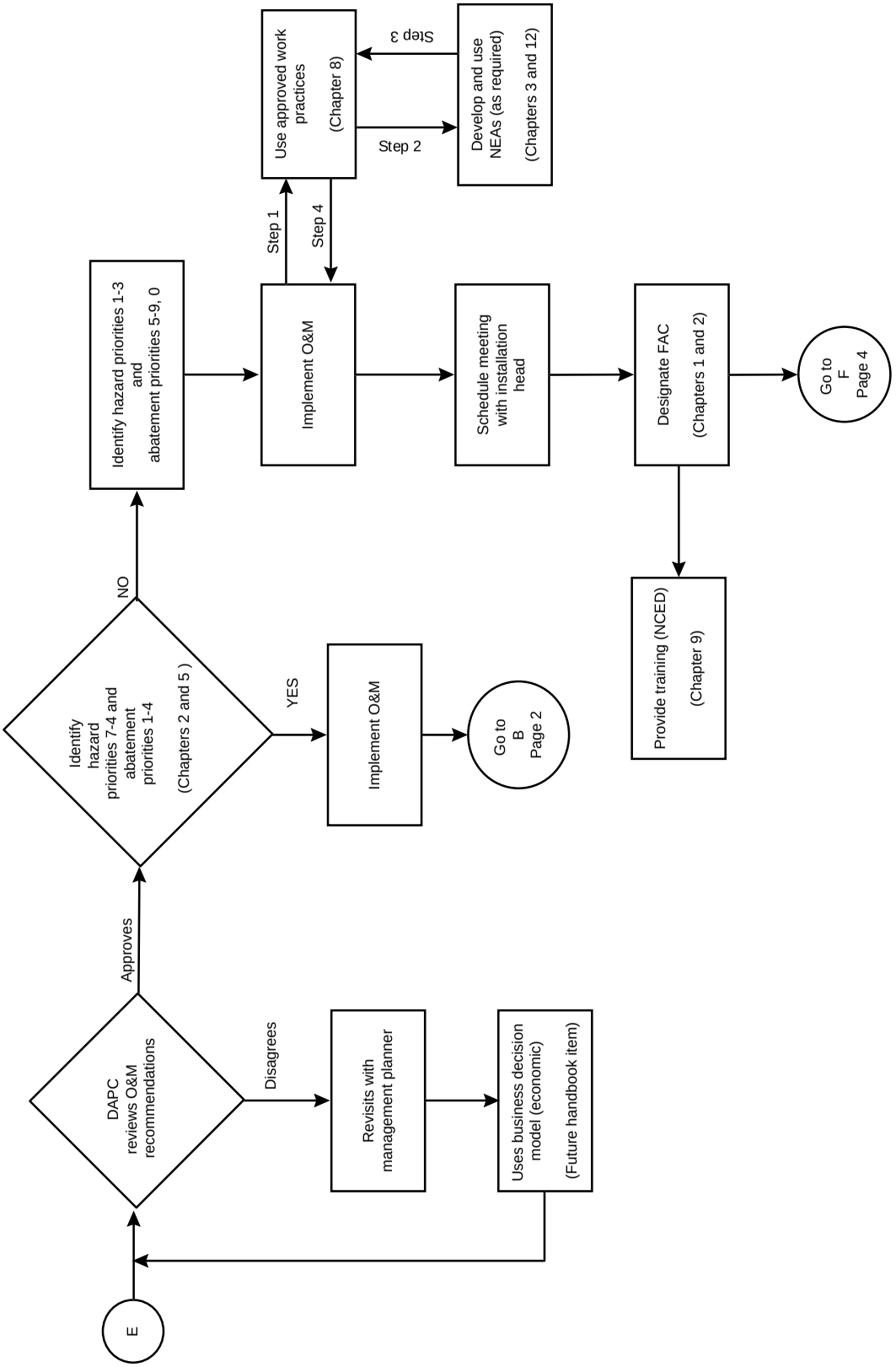
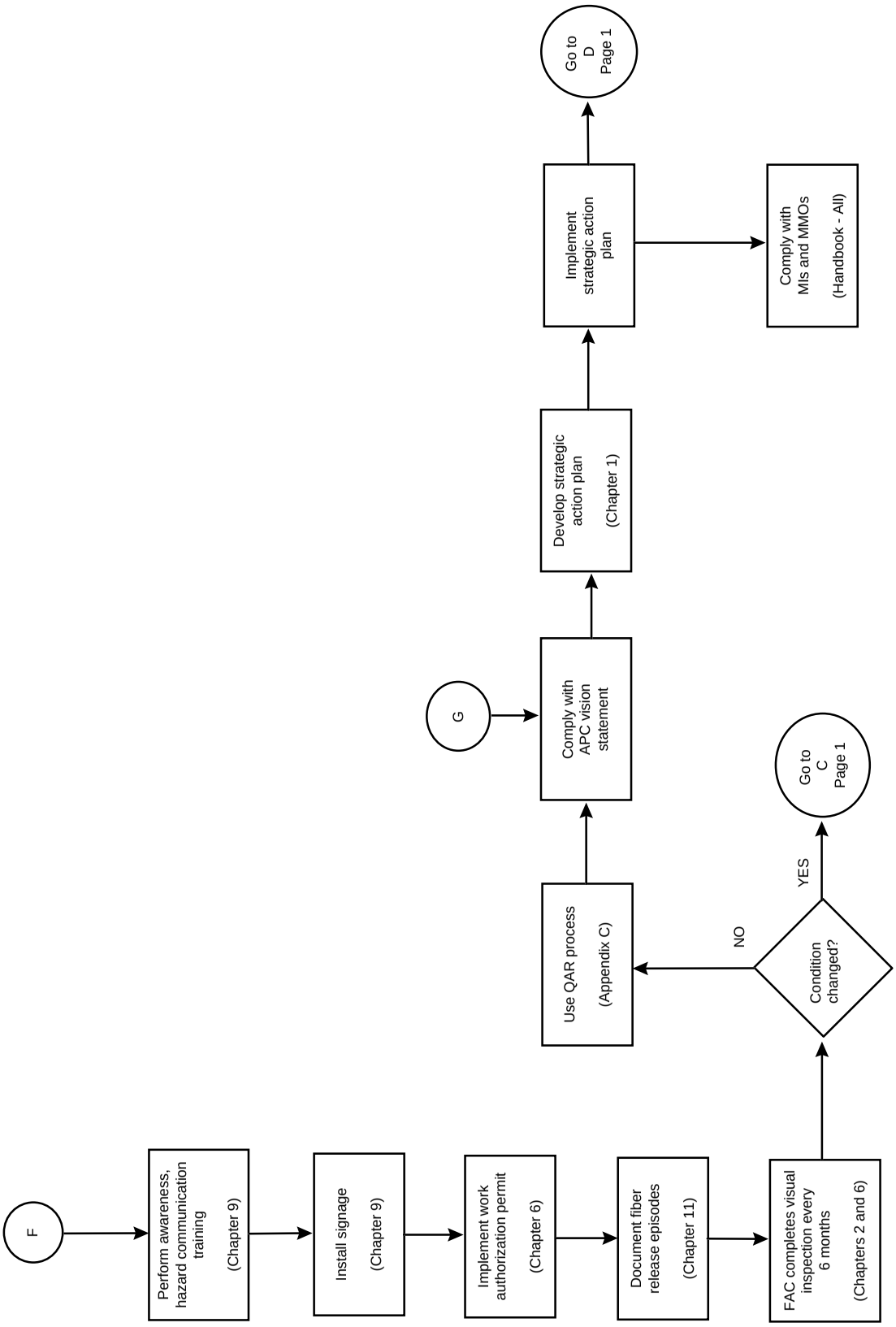


Exhibit 2-3, Asbestos Process Flowchart/Decision Diagram (Page 4)



3 Regulatory Issues

3-1 Summary of OSHA General Industry Standards

In 1994, a new General Industry Standard went into effect for all general industry workers who will be exposed to asbestos on the job, except those who work in the construction or shipyard industries. Issued on August 10, 1994, 29 *Code of Federal Regulations* (CFR) 1910.1001 became effective on October 11, 1994. Asbestos control programs must comply with this standard, as well as with NESHAP, AHERA, the Asbestos School Hazard Abatement Reauthorization Act (ASHARA), and OSHA regulations. Section 3-3 discusses the compliance issues associated with the new standard.

The major revisions in the standard include:

- A reduced time-weighted average (TWA) permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter (f/cc) for all asbestos work.
- A presumptive asbestos identification requirement for certain ACBM.
- Expanded notification and training requirements for employers whose employees may be exposed to asbestos during the course of their jobs.
- Mandatory work practices and methods of controlling asbestos exposures during brake and clutch repair operations.

3-2 Summary of OSHA Construction Standards

The Construction Standard applies to all construction industry workers who will work with and be exposed to asbestos on the job. Issued on August 10, 1994, 29 CFR 1926.1101 became effective on October 11, 1994. Again, asbestos control programs must comply with NESHAP, AHERA, ASHARA, and OSHA regulations. The OSHA compliance directive includes an expanded discussion of the compliance issues associated with this new standard. The major revisions of the Construction Standard include all of the revisions noted above for the General Industry Standard and include some others:

- A new classification scheme for asbestos construction work based upon the potential level of exposure.
- Mandatory work practices that are keyed to the work classification scheme.

- Limited notification requirements for employers who use unlisted compliance methods in high-risk asbestos abatement work.

3-2.1 [June 2000] Alternative Methods of Compliance for Installation, Removal, Repair, and Maintenance of Certain Roofing and Pipeline Coating Materials

Based on a Fifth Circuit Court of Appeals decision in Asbestos Information Association/North America versus Reich, July 24, 1997, the Construction and Shipyard standards were vacated as they pertained to asbestos-containing roof cements, mastics, and coatings. This change applies to any asbestos work that involves installation, removal, repair, or maintenance of **intact** pipeline asphaltic wrap or roof flashings that contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. This type of asbestos roofing work is no longer a Class II operation.

The work must be accomplished under the following provisions:

- Before work begins and as needed during the job, a competent person must inspect the worksite and determine that the roofing material is intact and will likely remain intact during the course of the work.
- All employees performing this type of roofing work must be appropriately trained.
- Only manual methods that do not render the material nonintact may be used. **Sanding, abrading, and grinding are not allowed.**
- Material must be removed from the roof via covered, dust-tight chutes or must be carried or passed to the ground by hand.
- All such material must be removed from the roof as soon as possible, but in any event no later than the end of the work shift.
- When asbestos-containing roofing products are installed on nonresidential roofs, the employer must notify the building owner of the presence and location of these materials no later than the end of the job.
- All pipeline asphaltic wrap must be removed using wet methods.

3-2.2 [June 2000] Potential Asbestos Contamination in Soft Concrete

OSHA released a Hazard Information Bulletin on October 8, 1998, which described asbestos contamination in soft concrete used in roofing materials. This soft concrete is used to make a lighter and easier-to-use mixture than the regular concrete used for roofing operations. This soft concrete has an asbestos content of between 2 and 10 percent by weight and is considered ACM by OSHA. The removal of this type of concrete is a task that requires the extensive precautions and control methods as prescribed by the OSHA asbestos Construction Standard, 29 CFR 1926.1101.

It is Postal Service policy that roofs containing soft concrete be surveyed for the presence of asbestos. All FSOs and Administrative Support units must check for the presence of soft concrete before initiating any roofing project.

3-3 Summary of OSHA Compliance Directives

This section summarizes critical elements in the OSHA Asbestos Compliance Directive CPL 2-2.63 of December 10, 1995. It includes excerpts from the text of the directive and comments on how these critical elements may affect postal asbestos control programs. This directive is not a policy document. It outlines how OSHA intends to enforce the asbestos standards. The portions discussed here relate directly to daily operations. The full text of the directive also contains material of importance to personnel who manage ACM removals and other activities that disturb ACM and PACM.

3-3.1 Background

The final Occupational Exposure to Asbestos Standards, 29 CFR 1910.1001, 1926.1101, and 1915.1001, were published in the *Federal Register* on August 10, 1994, and became effective on October 11, 1994. These final standards amend OSHA's asbestos standards issued on June 17, 1986 (29 CFR 1910.1001, June 20, 1986) for occupational exposure to asbestos in general industry and the construction industry, 29 CFR 1926.1101 (previously 1926.58). In addition, a separate standard covering occupational exposure to asbestos in the shipyard industry (29 CFR 1915.1001) was issued.

Major revisions in the standards include the following:

- A reduced TWA PEL of 0.1 f/cc for all asbestos work in all industries.
- A new classification scheme for asbestos construction and shipyard industry work that ties mandatory work practices to work classification.

- A presumptive asbestos identification requirement for certain ACBM.
- Limited notification requirements for employers who use unlisted compliance methods in high-risk asbestos abatement work.
- Mandatory methods of control for brake and clutch repair.

Note: The second and third items on the list above have special significance for postal asbestos control. Postal policy on the last item is contained in MI EL-830-95-2, *Control of Asbestos Exposure from Brake and Clutch Repair and Service*.

3-3.2 Job Requirements

When working with asbestos, employees are required to take the following precautions (regardless of air monitoring results):

- Employ wet methods.
- Use a high-efficiency particulate air (HEPA) vacuum.
- Ensure prompt cleanup and disposal.

The following precautions are required for all jobs when exposure exceeds the PEL (29 CFR 1926-1101(g)(2)(i)-(v)):

- Use a HEPA local exhaust.
- Enclose area.
- Direct ventilation away from breathing zone.
- Use other work practices deemed feasible.
- Supplement feasible work practices with respirators.

Note: Postal employees should not perform tasks that require these precautions.

The following practices are prohibited on all jobs:

- Using high-speed abrasive disc saws without a HEPA vacuum.
- Removing asbestos using compressed air without a capture device.
- Dry sweeping and shoveling.
- Rotating employees (to reduce exposures below the PEL and/or the excursion limit (EL)).

Note: Postal employees, who are prohibited from performing most tasks that may disturb ACM, can never engage in these types of activities.

3-3.3 OSHA and EPA Training Requirements

This guide summarizes the OSHA asbestos standards training requirements. The corrections made to the Final Rule published in the *Federal Register* on June 29, 1995, have been incorporated.

OSHA's General Industry Standard 29 CFR 1910.1001(j) states that employees exposed at or above the permissible exposure limits must have training before initial assignment and at least annually thereafter (29 CFR 1910.1001(j)(7)). Although the standard does not specify the

length of the training session, the elements that must be included in the program are listed in 29 CFR 1910.1001(j)(7)(iii).

The employer must provide an **awareness** training course to employees who perform housekeeping operations in an area that contains ACM and PACM (29 CFR 1910.1001(j)(7)(iv)). Elements that must be included in the asbestos awareness course are listed in 29 CFR. Training must be provided at least once a year. The standard does not specify the length of the training session.

This section covers any custodian or other postal employee working on or around such ACM as flooring or pipe lagging.

Note: The training must be repeated annually. A standup safety talk, short video, or other similar session, documented in accordance with the standard, should suffice for this training.

The training requirements for the Construction Asbestos Standard are listed in OSHA's Construction Standard (29 CFR 1926.1101(k)(8)). Training must be provided as follows:

- At no cost to the employee.
- To all employees exposed at or above the PEL.
- To all employees who perform Class I through IV asbestos operations.
- Before or at the time of initial assignment and at least annually thereafter.

Postal employees may perform limited Class III tasks (drilling holes in flooring and lifting small amounts of tiles) and Class IV work in some situations, such as cleaning in areas with ACM. See section 3-4 for a question and answer section with more information on these classes.

Class III Training Requirements

This level of training must meet certain requirements:

- Employees must receive training that is consistent with EPA requirements for training local education agency maintenance and custodial staff as set forth in 40 CFR 763.92(a)(2). The course must include hands-on training and be at least 16 hours in length.
- For Class III operations, if the competent person determines that the EPA curriculum does not cover activities that workers perform, training must include all the elements of paragraph (k)(9)(viii), specific work practices and engineering controls in paragraph (g), and hands-on

training. The standard does not specify the length of the training.

- Postal employees conducting only limited drilling and floor tile lifting may qualify for an exception. OSHA has indicated in the flooring industry settlement that an 8-hour training course, rather than the full 16 hours, is sufficient. Taking advantage of this exception can save significant training hours and still protect employees.

- An annual refresher course is required. The standard does not specify the length of time for the refresher training.

Class IV Training Requirements

This level of training must meet certain requirements:

- Employees must receive training that is consistent with EPA requirements for training local education agency maintenance and custodial staff as set forth in 40 CFR 763.92(a)(1). The course must be at least 2 hours in length.
- The course must include available information on locations of thermal system insulation (TSI), surfacing ACM and PACM, and asbestos-containing flooring and instruction in recognizing damaged, deteriorating, and delaminating ACBM.

The standard requires annual refresher training but does not specify the length of time for the training.

Competent Person Training (Section (o)(4))

Class I and II personnel must obtain training in a comprehensive course such as a course conducted by an EPA- or state-approved training provider.

For Class III and IV asbestos work, training must be equivalent in curriculum and training methods to the 16-hour O&M course developed by EPA for maintenance and custodial workers. Competent persons for Class III and IV work may also be trained in a comprehensive course for supervisors conducted by EPA or a state-approved training provider as described for Class I and II competent persons.

3-4 Questions and Answers

Typical questions about OSHA's General Industry and Construction standards are explored below, with page numbers referring to the *Federal Register* of the asbestos standards.

3-4.1 Scope

What work activity is most affected by the General Industry Standard? (pg. 40972)

> Brake and clutch repair in the General Industry Standard is the activity engaged in by the largest group of workers exposed to asbestos, although most of them are exposed sporadically and at low levels. The next largest group consists of custodial workers who do not perform their duties as part of construction activities but clean surfaces, sweep, buff and vacuum floors, and wash walls and windows in manufacturing plants and a wide variety of public and commercial buildings.

What provisions cover housekeeping work involving ACMs? (pg. 41009)

> Housekeeping work is covered in all three standards. Housekeeping provisions in the General Industry Standard are contained in paragraph (k). These provisions cover routine cleaning in public and commercial buildings and in manufacturing and other industrial facilities where construction activity is not taking place. Housekeeping provisions in the Construction Standard are contained in paragraph (l). Housekeeping provisions in the Shipyard Standard are contained in paragraph (l).

What activities does the Construction Standard (29 CFR 1926.1101) cover?

> The Construction Standard explicitly states that it covers, but is not limited to, the following activities involving asbestos: demolition, removal, alteration, repair, maintenance, installation, cleanup, transportation, disposal, and storage. It has been redesignated 29 CFR 1926.1101. This standard covers many postal operations. It is critical that ACM and PACM be identified before any such activities are undertaken.

Is housekeeping work covered under the General Industry Standard or the Construction Standard? (pg. 40973)

> Housekeeping work that is not related to a construction activity is regulated under the General Industry Standard. The Construction Standard covers housekeeping work that is related to construction activities at a construction site.
>
> Most postal housekeeping and custodial activities are covered by the General Industry Standard.

3-4.2 Definitions

Do the new standards set a minimum level of asbestos content for ACMs? (pg. 40977)

> *ACM* means any material containing more than 1 percent asbestos.

What is *presumed asbestos-containing material*?

> The definition of *PACM* is limited to thermal system insulation and sprayed-on, troweled-on, or otherwise applied surfacing material in buildings constructed no later than 1980. The material is "presumed" to contain asbestos unless it is demonstrated in accordance with the standard that it does not contain asbestos.
>
> OSHA has also indicated that persons inspecting for ACM and PACM may use visual analysis to determine if such materials as fiberglass insulation and rubber are not PACM.

Briefly, what are the four classes of activities covered in the Construction Standard? (pg. 40976)

> *Class I asbestos work* is defined as activities involving the removal of TSI and sprayed-on, troweled-on, or otherwise applied surfacing ACM or PACM.
>
> *Class II asbestos work* is defined as removal of ACM or PACM that is not TSI or surfacing ACM or PACM. Certain incidental roofing materials such as mastic, flashing, and cements, when they are still intact, are excluded.
>
> *Class III asbestos work* is defined as repair and maintenance operations that are likely to disturb ACM or PACM. *Disturbance* means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Operations may include drilling, abrading, cutting holes, pulling cables, or crawling through tunnels or attics and spaces above the ceiling where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.
>
> *Class IV asbestos work* means maintenance and custodial 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, and III activities. This work may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM or PACM debris from TSI or surfacing ACM and PACM following

construction activity. Some postal employees will perform Class IV activities.

Does OSHA still use the term “small-scale, short-term” (SSST)? (pg. 40991)

No. OSHA has dropped the term “SSST work” from the regulatory text. The term was too limiting, has been shown to be confusing, and could not be defined with sufficient precision to serve the purpose of distinguishing high-risk asbestos-disturbing activity from activity of reduced risk.

The National Institute of Building Sciences (NIBS) and EPA still reference SSST or small-scale, short-duration (SSSD) work.

If construction activities are performed in a facility normally covered by the General Industry Standard, which standard applies? (pg. 40973)

Asbestos work that involves removal, repair, maintenance, or demolition is explicitly regulated by the Construction Standard even if such work is performed within a facility otherwise regulated under the General Industry Standard.

3-4.3 Multi-employer Worksites

Who is responsible for employee protection on multi-employer worksites? (pg. 40982)

The standard explicitly requires asbestos hazards to be abated “by the contractor who created or controls the source of asbestos contamination.” In addition, employers of employees exposed to the hazard must protect their employees.

How are potentially exposed employees protected when their employer is not creating the hazard? (pg. 40982)

Paragraphs (d)(3) and (d)(4) of 29 CFR 1926.1101 set forth the duties of the employer of employees who are exposed to asbestos hazards, but who did not create the source of asbestos. An employer will request the contractor with control of the hazard to take corrective action. For example, if a breach occurs in an enclosure within which asbestos work is being performed, the employer of employees working outside that enclosure must ask the asbestos contractor who erected the enclosure to repair the breach immediately as required by paragraph (d)(2). If the repair is not made and if employees working outside the enclosure could be exposed to asbestos in excess of the PEL, the employer of those employees must either remove them from the worksite pending repairs or

consider his employees to be working within a regulated area and comply with the provisions of paragraph (e) governing exposure assessments and monitoring of employees who work within such areas. If there is an enclosure, the employer must inspect it to ensure the integrity of the enclosure. The general contractor who is deemed to have supervisory control over the entire worksite, including the regulated area, is also responsible for violations that could be abated or prevented by the exercise of such supervisory capacity.

The Postal Service is responsible, under OSHA regulations, for contractors over which it has direct control and supervision. See 29 CFR 1910.1960.

3-4.4 Exposure Assessment

What is included in the new exposure assessment requirements in the Construction Standard?

The “exposure assessment” predicts exposure and evaluates potential controls. In most cases, the exposure assessment includes both past and current monitoring. Monitoring results must be considered but do not necessarily constitute an adequate “assessment” if they would not represent all representative employee exposures during the entire job. The assessment must review relevant controls, conditions, and factors that influence the degree of exposure. These controls, conditions, and factors include, but are not limited to, quality of supervision and employee training, techniques used for wetting the ACM, placement and repositioning of the ventilation equipment, and effects of weather conditions. The assessment must be based on a review of all aspects of the employer’s performance doing similar jobs.

Do all employers need to conduct an “initial exposure assessment” under the Construction Standard? (pg. 40983)

In general, all employers who have a workplace covered by this standard must conduct an initial exposure assessment at the beginning of each asbestos job (paragraph (f)(2)). Exceptions to this requirement exist only for most Class IV work. Even employers who are planning to install full negative pressure enclosures with air flushing technology must conduct initial exposure assessments. Employers may base assessments of similar jobs on prior assessments of repetitive, routine jobs.

The last sentence is applicable to postal-sanctioned Class III activities.

Explain “objective data.” (pg. 40983)

> The use of objective data grants a monitoring exemption and may be used as a basis for a “negative exposure assessment.” The employer using “objective data” must demonstrate that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations in excess of the PEL under those work conditions having the greatest potential for releasing asbestos. The employer may use data derived from other employers’ jobs. The data should reflect worst-case conditions in a variety of occupational settings.

When can “objective data” be relied on for a negative assessment? (pg. 40983)

> For any specific asbestos job (combination of activity and product) performed by employees who have been trained to comply with the standard, the employer must demonstrate that, under worst-case conditions, statistically there is a high degree of confidence that an exposure above the PEL will not occur.

How would an employer who performs repetitive work complete an exposure assessment? (pg. 40964)

> An employer may evaluate repetitive operations with highly similar characteristics, such as cable pulling in the same building, as one job as long as the data used also reflects repetitive operations of the same duration and frequency.
>
> Objective data for postal employees performing routine custodial tasks and Class III drilling and lifting of floor tiles, based on prescribed work practices, is being collected. Some of this data is now available for use — see section 12-1f. Monitoring is usually not necessary for most stripping and buffing operations. In addition, OSHA, in a consent agreement with private industry, recognized that lifting of tiles conducted in a manner described in the NIBS guidance and in the full text of the directive does not result in the release of asbestos fibers.

3-4.5 Methods of Compliance

What are the three basic controls required initially in all operations covered in the Construction Standard? (pg. 40988)

> Regardless of the exposure levels, the controls required are: use of HEPA-filtered vacuums when the source of the dust and debris is damaged ACM or disturbance of ACM or PACM, use of wet methods to control asbestos fiber dispersion, and prompt

disposal of asbestos-contaminated waste materials. For example, these provisions apply to employers who install ACM (no Class designation), clean up asbestos-containing debris at a construction site (Class IV), repair a boiler covered with asbestos-containing TSI (Class I or III), and remove asbestos-containing surfacing material (Class I). Certain roofing operations, however, are not subject to these requirements.

What is required for the disposal of asbestos-contaminated waste? (pg. 40989)

All asbestos-contaminated waste must be promptly disposed of in leak-tight containers ((g)(1)(iii)).

What are “asbestos spills” and “emergency cleanups” under the Construction Standard, and how are they classified?

The Construction Standard covers cleanup of sizable amounts of asbestos waste and debris. However, an asbestos spill has occurred when, for example, water damage occurs in a building or facility and sizable amounts of ACM or PACM are dislodged. A competent person must evaluate the site and the ACM and PACM that must be handled and, based on the type, condition, and extent of the dislodged material, classify the cleanup as Class I, II, or III. Only if the material is intact and the cleanup involves mere contact with ACM, rather than disturbance, can there be a Class IV classification. Collecting and disposing of dislodged intact ceiling tiles is an example of this. Since collecting the tiles and disposing of them can be accomplished by careful handling and will not result in disturbance of the material, this activity is a Class IV job. As such, it still must be assessed by a competent person. Use of wet methods, HEPA vacuuming, and prompt disposal are also required.

3-4.6 Class III Work

Under the Construction Standard, what is the difference between Class III maintenance work and Class IV maintenance work? (pg. 41009)

Class III maintenance work involves “disturbances” of ACM. The clarified meaning of the term *disturbance* is an activity that disrupts the matrix of ACM or PACM, crumbles or pulverizes ACM or PACM, or generates visible debris from ACM or PACM. Class IV asbestos work means maintenance and custodial 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.

Is installing a smoke detector in a ceiling where asbestos products are present regulated by the Construction Standard?

Depending on the potential source of asbestos exposure, the installation of a smoke detector could be Class IV, Class III, or neither. If the ceiling material to which the detector is to be attached is asbestos, the competent person must assess whether the attachment will involve “contact” (Class IV) or actually “disturb” the ceiling ACM. When the source of asbestos exposure is dust and debris above the ceiling, for example, from friable sprayed-on or troweled-on surfacing materials, the competent person should direct a Class IV cleanup before installing the detector. Otherwise, the installation may be a Class III job if it involves disturbing debris and dust containing asbestos.

3-4.7 Class IV Work

What is included in Class IV work under the Construction Standard? (pg. 41008)

Class IV work includes activities to clean up ACM waste, debris, and dust incidental to a construction activity. Cleaning up debris from cables that run above a suspended ceiling and sweeping, mopping, dusting, cleaning, and vacuuming ACM and dust and debris from construction work involving ACM and PACM are examples of such activity. Certain activities such as stripping and buffing of resilient flooring are Class IV maintenance work if they are done incidental to construction work. Class IV work also includes activities in which the worker contacts, but does not disturb, ACM or PACM.

When must dust that is not accompanied by debris and waste be treated as ACM?

Under all three standards, ACM must be handled wet, and HEPA filters must be used to vacuum. Dust that accompanies debris and waste in areas with accessible PACM or visibly deteriorated ACM must be handled as ACM. Employers who know, or reasonably should know, that “unaccompanied” dust is ACM must also comply with these procedures. The fact that the standards do not state explicitly when dust must be considered as “asbestos-containing” does not mean that such situations do not exist. For example, when visibly deteriorated ACM that is not intact is in close proximity to a dust accumulation and no similar dust accumulation exists where the ACM is not so proximate or damaged, an employer must either treat the dust as ACM or have the situation evaluated by a competent person.

3-4.8 Brake and Clutch

Are the appendices on Brake and Clutch Repair (Appendix F for General Industry and Appendix L for Shipyard employment) mandatory? (pg. 40985)

Yes.

What are the two preferred methods for brake and clutch repair? (pg. 40985)

The two preferred methods are the low-pressure and wet-cleaning method and the negative pressure enclosure and HEPA vacuum system.

Is the solvent spray method prohibited?

No. The solvent spray method is an equivalent method that may be used when proper work practices are followed.

What are the work practices that must be used when an employer chooses the spray and solvent can method?

An employer who uses an equivalent method must follow detailed written procedures. At a minimum, the solvent spray method should include the following procedures: (a) the solvent must be used first to wet the brake and clutch parts; (b) the brake and clutch parts must be wiped clean with a cloth; (c) the contaminated cloth must be placed in an impermeable container and then either disposed of properly or laundered in a way that prevents the release of asbestos fibers in excess of 0.1 f/cc of air; and (d) any spilled solvent or dispersed asbestos must be cleaned up immediately, either with a cloth or a HEPA vacuum, and not allowed to dry. Dry brushing during solvent spray operations is prohibited.

What other precautions are required when solvents are used?

The solvents typically used in brake and clutch work are hazardous chemicals, and the employer must therefore comply with the Hazard Communication Standard. If the solvents used are flammable, appropriate precautions against fire and explosion must be taken.

If the employer chooses to use one of the two “preferred” methods or an “equivalent” method, does the employer have to conduct exposure monitoring?

No.

Does Appendix F of the General Industry Standard that covers brake and clutch work practices also cover brake and clutch work done on large stationary equipment such as printing presses?

No, the appendix is only intended for automotive work. For other asbestos jobs as described above, the employer must use work methods that reduce the exposures to below the PEL.

What type of aqueous solution is allowed when the low-pressure and wet cleaning method is used? (pg. 40985)

The intent of the standard was to ensure that the asbestos is sufficiently wet so that exposures are kept well below the PEL. The solution can consist only of water or water mixed with an organic solvent or a detergent.

Note: Solvent use in these operations is potentially dangerous. The use of solvents, which are often flammable and may also present a health hazard, must be undertaken with great care. The employer must also be in compliance with the Hazard Communication Standard.

Are other methods allowed for employers who do brake and clutch work infrequently? (pg. 40987)

Yes, for those shops in which brake work is infrequent, OSHA allows the use of a wet control method as a preferred method. Therefore, in facilities in which five or fewer brake “jobs” (five brake jobs is equivalent to five vehicles) or five clutches, or some combination totaling five, are repaired each week, the mechanic or technician may control potential asbestos exposure by using a pump sprayer (bottle) containing water or amended water to wet the drum or clutch housing before it is removed and control fiber release during subsequent activities. The mechanic may use other implements, such as a garden hose, to deliver the water. The spray should be controlled through the use of low pressure to the extent feasible. OSHA anticipates that the use of a spray bottle will be adequate to control the dust without generating a large volume of wastewater. All resulting wastewater generated by any means must be captured and properly disposed of before it dries on any surfaces.

What provisions are required to perform a brake inspection?

The extent to which an inspection is different from the other brake servicing depends on whether or not the drum is removed and how it is removed. Most inspections of brake shoes involve removing the drum, which may contain a substantial number of asbestos fibers. Precautions must be

taken against the release of those fibers into the workplace. If the drum is carefully pulled back just far enough to observe the brake shoe and brake components, thoroughly wetting the exterior and around the seam between the brake drum and backing plate is sufficient. Any dislodged material must be immediately cleaned up in accordance with paragraph (k) of the standard.

Blows to the drum with a hammer or similar implement to dislodge a rusted-in-place or frozen drum may cause the release of asbestos fibers. For such cases, in shops performing six or more brake jobs per week, an enclosure must be installed around the drum to capture the dust, or the drum interior and contents must be thoroughly wetted prior to striking or forcibly removing the brake drum. As with other brake servicing, personnel must use a preferred or equivalent method. When using the equivalent spray can method, personnel must first wet the interior and contents of the drum before striking it. Then they should carefully pull the drum back just enough to allow another application of solvent and thoroughly wet the interior before removing the drum. No visible dust should be created during drum loosening and removal.

3-4.9 Flooring

When must an employer presume that flooring material contains asbestos?

A 1988 EPA survey reported that 42 percent of public and commercial buildings within the United States contain asbestos-containing flooring material. The standard requires that employers presume that floor tile and resilient flooring found in buildings constructed no later than 1980 contain asbestos and take the specific precautions required unless the employer demonstrates, using recognized analytical techniques, that the flooring materials do not contain asbestos.

Note: Bulk sampling has shown that post-1980 asphalt planking may contain asbestos.

What work practices are prohibited or restricted in floor maintenance?

(a) Sanding of asbestos-containing flooring material is prohibited, (b) personnel must use low-abrasion pads at speeds lower than 300 rpm and wet methods to strip finishes, and (c) burnishing or dry buffing may be performed only on asbestos-containing flooring that has sufficient finish so that the pad cannot contact the ACM. Only stripping must be done at a

lower speed. Burnishing speeds are not restricted, but sufficient finish must be present.

What work practices must be used when removing floor tile?

The floor must first be HEPA-vacuumed. Then floor tiles must be wetted and carefully pried up individually. Misting is sufficient if the tiles are removed intact. After removal, each tile must be placed in an impermeable trash bag or other impermeable waste container.

If the wetting agent contains a hazardous substance, what other precautions must the employer take?

The employer may be responsible for compliance with other standards such as the Hazard Communication Standard. The employer must obtain a Material Safety Data Sheet for the substance, follow the recommendations for the use of personal protective equipment, and provide training.

If floor tiles are broken during removal, are they no longer “intact?”

Not necessarily. Some incidental breakage of floor tiles is to be expected. Under the standard, material is “not intact” when it has crumbled, been pulverized, or has otherwise deteriorated so that the asbestos fibers are no longer likely to be bound with their matrix. Therefore, the incidental breakage of tiles does not in and of itself mean that the material is not intact.

How are tiles to be removed when they cannot be removed by careful prying?

The tiles may be heated to soften the adhesive holding them to the substrate. When personnel use heat to remove tiles intact, they can omit wetting.

How are tiles to be removed when they cannot be removed by either careful prying or heating?

Aggressive techniques such as mechanical chipping can be used if a competent person evaluates the worksite and determines that additional precautions required by the standard are properly installed and operated. These precautions may include negative pressure enclosures.

How must residual adhesive be removed?

The standard does not require removal of residual adhesive, but it is often necessary to remove or smooth residual adhesive to prepare the surface for installation of a new floor. Wet

methods must be used when removing residual adhesive. Personnel must either wet-scrape the adhesive manually or use a low-speed floor machine and wetted sand or a removal solution. The adhesive residues, while still wet, must be placed in an impermeable trash bag or other impermeable container. Remaining water or dirt in the area must then be HEPA-vacuumed.

What work practices must be used when removing resilient sheet flooring?

The material must not be ripped up. The floor must first be HEPA-vacuumed. The sheet flooring must then be removed in 4- to 8-inch wide strips. As a strip is removed, the point of separation must be constantly misted to minimize fiber release. A strip must be rolled up as it is removed, and the roll must be placed in an impermeable trash bag or other impermeable container. Residual felt and adhesive is then removed by wet scraping, and the floor is HEPA-vacuumed.

When must flooring removal jobs be monitored for asbestos levels?

Most jobs will not require monitoring. Monitoring is only required if compliant work practices are not followed, if the material is not removed intact, or if the employees are not properly trained in accordance with the standard.

What level of training is required for competent persons for flooring removal operations?

When flooring removal jobs are conducted using compliant work practices and the material is removed intact, the competent person must have completed at least 12 hours of training. If the material is not removed intact, the competent person must have completed a training course that meets the requirements for a Class II competent person.

Must respirators be worn when heat is used to remove floor tiles?

The standard generally requires that workers wear respirators when they do not use wet methods to perform Class II work, including floor tile removal. However, the standard allows workers to omit wetting when they use heat to remove floor tiles intact. Since using heat to remove floor tiles provides the same level of protection against fiber release as wetting, workers who omit the wetting do not need to use respirators when they use heat and the tiles are removed intact. Under these circumstances, respirators are necessary only if their use is required under another provision of the standard.

3-4.10 Responsibilities of Building Owners

Does a building owner have any responsibility under the standard even though the employees at risk may not be the owner's direct employees? (pg. 40972)

> Yes. The building or facility owner must notify contractors and tenants of the presence of ACM and PACM, even though the employees at risk are not the owner's direct employees. OSHA has the authority to require building owners who are "statutory employers" to take necessary action such as notifying other employers and to protect employees other than their own. They must also identify and label ACM and PACM when required. Homeowners are not considered "building owners" when they have work done in their private homes.

Does a long-term lessee of a building have the same responsibilities as a building owner? (pg. 41014)

> "Building owner" has been defined to include lessees who control the management and recordkeeping functions of a building, facility, or vessel. It is not OSHA's intention to exempt the owner from notification requirements by allowing a lessee to comply. Rather, when the owner has transferred the management of the building to a long-term lessee, that lessee is the more appropriate party to receive, transmit, and retain information about in-place asbestos. When the lease is terminated, the records must be transferred to the building owner.

Can building owners use building records to rebut the presumption of PACM? (pg. 41015)

> Generally, building records must be relied upon to rebut the presumption of PACM. If an employer had an AHERA asbestos survey, such a survey would be accepted. However, for non-PACM, building owners and employers may use all sources of information, including building records, to show that the materials do not contain asbestos.

What materials must be presumed to contain asbestos? (pg. 41015)

> TSI and sprayed-on and troweled-on surfacing materials installed no later than 1980. In addition, resilient flooring material installed no later than 1980 must be identified as asbestos-containing. Other building or facility areas and material would not be exempt from the standard's control requirements; however, they would not be presumed to contain asbestos.

Do the standards require any particular qualifications of the person who designates materials as PACM? (pg. 41017)

> The person who designates materials as PACM is not required to have any technical training. The evaluation is not to determine if the material is or is not asbestos; rather, it is to identify thermal system insulation and surfacing materials. The process does not require technical training. Thermal system insulation and sprayed-on or troweled-on surfacing material are easily recognized and identified.

3-4.11 Signs and Labels

Take special note of the following interpretations, especially the answer of signage for flooring, etc.

Are the sign and label requirements the same in the General Industry Standard as they are in the Construction and Shipyard standards?

> Yes, the three standards contain the same provisions.

If construction of a building began before 1981 but was not completed until several years later, is the owner responsible for presuming that asbestos exists in the entire building?

> The Compliance Safety and Health Officer (CSHO) must evaluate this on a case-by-case basis. Generally speaking, the CHSO would focus on areas built before 1981 that contain suspect materials.

In the Construction Standard, 29 CFR 1926.1101 (k)(5) requires that signs be posted at the entrance of mechanical rooms. Can the signs be placed inside the room?

> Yes, the intent of the standard is to ensure that persons entering the rooms see the signs and are therefore forewarned of the presence of asbestos. The sign can be inside the room as long as the sign is visible to those entering.

Is color coding an acceptable alternative to labels where asbestos-containing products are installed?

> Yes. In some instances, because of the nature of the asbestos-covered materials (pipes, tanks, etc.), labeling is not feasible. The employer must ensure that all employees and contractors have been trained to understand the coding system.

Are there guidelines concerning the feasibility of posting signs and labels on installed asbestos products in a building?

In all three standards, signs and labels for installed asbestos products are a performance-oriented requirement. The degree to which signs and labels are required depends on the exposure potential, access to the asbestos product, and the hazard of the material. Signs and labels must be posted on or near the product. It is generally not feasible to put labels on walls or floors. If it is not feasible, alternatives may be used. For example, if employees who use a common equipment room daily are servicing asbestos-containing floors, then a sign or label for the asbestos flooring can be posted in the equipment room. The object is to forewarn employees who potentially may be exposed during the floor cleaning operation and have access to the ACM. The label could be posted on the buffing machine that the employer chooses. In another example, signs and labels can be used in a more limited way when the mechanical staff performing asbestos-related operations are employees. The employers must train their employees who perform Class III operations, so signs and labels do not play as important a role as they do when the employer uses outside contractors. When outside contractors come in, the employer must post signs and labels.

3-4.12 Repair and Maintenance

How has the definition of repair and maintenance changed?

Repair and maintenance is now considered Class III work if it involves less than one glove bag of material, regardless of the time it takes to do the job. If the job involves more than one glove bag of TSI or surfacing material, then it is a Class I job. If the job involves more than one glove bag of other ACM, then it is a Class II job.

What are some examples of activities that may be classified as Class III? (pg. 41007)

These activities may include the following: maintenance and repair of boilers, air handling units, heat exchangers, and tanks; repair and replacement of pipe insulation including cutting away of small amounts of ACM (the amount that fits into a standard glove bag or disposal bag); valve or gasket replacement; or activities above suspended ceilings such as installing connections and extensions for telecommunication and computer networks, adjusting and repairing heating, ventilation, and air-conditioning (HVAC) systems, and testing, cleaning,

and replacing smoke or heat detectors when connected to ceilings containing ACM. Class III work involves a disturbance.

3-4.13 Competent Person

What training must a competent person have? (pg. 40972)

> For Class I and II work, the competent person must take a course such as the one under the EPA Model Accreditation Plan for accredited contractor or supervisor or a course that is equivalent in content, duration, and criteria for success. For Class III and IV work, the competent person must receive the equivalent of EPA's O&M training. All competent persons must be able to identify existing asbestos hazards in the workplace and take prompt corrective action.

Has the definition of "competent person" changed? (pg. 40977)

> The definition of a "competent person" has been amended in the Construction Standard, and a definition of a "qualified person" has been included in the Shipyard Standard. The scope of the competent person's duties has expanded so that a competent person must supervise all asbestos activities that come under the Construction Standard.

What is the definition of a "competent person" in the Construction Standard? (pg. 41023)

> As in the regulations applying to all construction work, the "competent person" must be "capable of identifying existing and predictable hazards...which are...hazardous to employees, and (have) authorization to take prompt corrective measures to eliminate them" (29 CFR 1926.32(f)). Also, the competent person must be designated by the employer (29 CFR 1926.20(b)(2)). OSHA notes that this "competency" is independent of the training required to be an asbestos-competent person. Competency as well as training is required. Thus, a competent person is not merely someone with a specified level of training; this designation connotes a high level of knowledge of worksite S&H issues as well.

3-4.14 Training

Have the training requirements been expanded? (pg. 41019)

> Paragraph (k)(9) in the Construction and Shipyard standards expands the training provisions. Training must be given to all employees who are actively exposed to asbestos, i.e., whose exposure is the result of performing Class I through IV work or

who install new asbestos products. The second major expansion of training requirements covers curriculum method and length of training.

What training is required for housekeepers under the General Industry Standard?

The standard requires annual awareness training and lists specific topics that must be covered. The standard does not specify a length of time for this training.

What training is needed when a custodian does maintenance work?

The training requirements are not tied to the job title of the worker performing the work. Rather, if a worker is disturbing asbestos and the disturbance will result in the generation of less than one standard 60” x 60” glove bag of asbestos waste, then the worker is performing Class III work and must have Class III training. For example, if a building custodian is told to scrape off a few inches of sprayed-on material on a decking to access an electrical box, he or she will be performing Class III work and must have the requisite training.

3-4.15 Medical Surveillance

What are the fundamental elements of the medical surveillance requirements? (pg. 40975)

OSHA has clarified the medical surveillance provisions to explain that two groups will receive more limited surveillance. These groups include the following. When workers are required to wear negative pressure respirators while performing Class I, II, or III work for fewer than 30 days per year, a physician must ensure that the worker is able to use a respirator. This clarification limits the requirements for surveillance of occasional respirator wearers. When workers perform Class II and III work for more than 30 days per year, the employer is not required to count jobs that take less than a total of one hour per day against the 30-day tally for medical surveillance. Otherwise, all who perform Class I, II, or III work for more than 30 days per year or who may be exposed above the PELs for more than 30 days per year must receive full medical surveillance.

When workers who have been exposed to asbestos and are covered by the medical surveillance program are no longer exposed, can medical surveillance be discontinued?

In the General Industry Standard, workers who are no longer exposed at or above the PEL are not subject to medical

surveillance requirements. If the employment is terminated, the employer must provide a termination medical exam. Under the Construction and Shipyard standards, the medical surveillance stops once the provisions in (m)(1) are no longer true. The Construction and Shipyard standards do not require a termination medical exam.

Once medical surveillance is discontinued, what further obligations does the employer have?

In all three standards, the employer must maintain the medical records for the employee's duration of employment plus 30 years.

3-4.16 Respirators

Is an industrial hygiene consultant who is taking bulk samples for an asbestos survey required to use a respirator?

This task is a Class III operation and, as in all Class III operations, a negative exposure assessment must be made to determine if a respirator is required. Qualified postal employees who take bulk samples must wear approved respirators and take other precautions outlined in EPA-approved inspector courses.

3-5 American Society for Testing and Materials Asbestos Standards

The American Society for Testing and Materials (ASTM) Asbestos Standards discussed in this section are listed in Chapter 12, Collection of Resources, and can be viewed at the Postal Service internal web site.

The ASTM produces two types of standards concerning asbestos:

- Standard practices, which are definitive sets of instructions for performing one or more specific operations that do not produce a test result.
- Test methods, which prescribe definitive procedures used to make measurements, evaluations, or identifications and produce test results.

3-5.1 Standard Practices

Visual Inspection

The *Standard Practice for Visual Inspection of Asbestos Abatement Projects* (Test Method E 1368-90) covers the following procedures for performing visual inspections on asbestos abatement projects:

- Establishing the need for the extent of the required abatement before the project begins.
- Determining the progress of the work and the quality of work procedures during the work.
- Evaluating the completeness of the abatement and the cleanliness of the work area before and after final air testing for clearance.

These procedures are intended for use on projects performed under a contract between a building owner and an abatement contractor. The responsibilities of the participants, such as architects, construction engineers, consultants, industrial hygienists, and testing laboratories in such projects should be described in the contract documents. The concepts and methods in this practice may also be applicable to repair and maintenance operations performed by postal personnel.

This practice provides the following information:

- The objectives of a visual inspection program.
- The responsibilities for performing visual inspections.
- The schedule of visual inspection activities during a project.
- The inspection procedures for the various types of abatement work.
- The criteria for considering work to completed on the basis of visual inspections.

Encapsulants

The *Standard Practice for Encapsulants for Spray- or Trowel-Applied Friable Asbestos-Containing Building Materials* (Test Method E 1494-92) covers encapsulants intended to reduce or eliminate the release of asbestos fibers from a matrix of friable spray- or trowel-applied ACM. The practice includes:

- A series of laboratory tests to show whether an encapsulant is capable of acceptable performance on a specified asbestos-free model matrix.

- A series of determinations, conducted in the field at each location for which encapsulation has been accepted, that show whether a given encapsulant is acceptable on the specific asbestos-containing matrix.

See section 7-3 for a complete discussion of encapsulants.

3-5.2 Test Methods

Two asbestos sample analytical procedures are explained below, and others can be found in section 5-6.

Asbestos Structure Number Concentrations

The *Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Structure Number Concentrations* (Test Method D 5755-95) covers procedures to:

- Identify asbestos in dust.
- Provide an estimate of the concentration of asbestos in the sampled dust reported as the number of structures per unit area of sampled surface.

The test method describes the equipment and procedures necessary for sampling, by a microvacuum technique, non-airborne dust for levels of airborne structures. The non-airborne sample is collected inside a standard filter membrane cassette from a known surface area. The collection efficiency of this technique will vary among substrates. Properties influencing collection efficiency include surface texture, adhesiveness, electrostatic properties, and other factors. The method is generally applicable for an estimate of the concentration of asbestos structures starting from approximately 1,000 asbestos structures per square centimeter.

Asbestos Mass Concentration

The *Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Concentration* (Test Method D 5756-95) covers procedures to:

- Identify asbestos in dust.
- Provide an estimate of the concentration of asbestos in the sampled dust, reported as either the mass of asbestos per unit area of sampled surface or as the mass of asbestos per mass of sampled dust.

This test method is generally applicable for an estimate of asbestos starting from approximately 0.24 pico-grams of asbestos per square centimeter (assuming a minimum fiber dimension of 0.5 micrometer (μm) by 0.025 μm), but may vary with the analytical parameters as noted in section 17.8 of the test method.

3-6 AHERA

AHERA (40 CFR 763) provides regulations and guidance for management of ACM in schools. The Postal Service has determined through legal review that AHERA does not directly apply to Postal Service facilities. AHERA does not require that the Postal Service reinspect facilities with ACBMs every 3 years as it does schools. However, the Postal Service has elected to have AHERA-accredited inspectors conduct all asbestos surveys. The Postal Service will also use modified versions of the AHERA hazard ranking and abatement priority schemes. See Chapter 5 of this guide for further detail.

The following are basic requirements of AHERA:

- Its regulations apply to all public and private primary and secondary schools in the United States and its territories.
- Facilities must designate a person who will ensure that requirements are properly implemented.
- Schools must inspect for and identify friable and nonfriable ACM.
- Schools must monitor and periodically reinspect ACM.
- An asbestos management plan must be developed and updated periodically.
- Schools must determine and implement appropriate response plans.
- Schools must develop and implement O&M programs.
- Parents, building occupants, and outside contractors must be notified of identified ACMs.
- Two hours of awareness training must be provided for maintenance and custodial staff who work in a building that contains asbestos.
- Fourteen *additional* hours of training (making a total of 16) must be provided for maintenance and custodial staff who may disturb ACMs.
- Accreditation requirements must be established for asbestos professionals.

The asbestos job classifications established by AHERA are as follows:

- Building inspector — surveys buildings for the presence of ACM.
- Management planner — conducts hazard assessments and advises school administrators on management options.
- Design professional — designs abatement projects and writes contract specifications for abatement work.
- Abatement supervisor — supervises abatement projects.
- Abatement worker — conducts abatement projects.

3-7 ASHARA

ASHARA establishes accreditation requirements for inspectors and abatement contractors who work in public and commercial buildings such as postal facilities. The Postal Service will follow the Asbestos Model Accreditation Plan (40 CFR Part 763), which is part of ASHARA and is referenced in the OSHA regulations for training of postal employees. Chapter 9 includes specific requirements for employee training.

The ASHARA plan includes the following modifications:

- It extends inspection and management requirements to "public and commercial buildings" and includes industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, preschools, stores, warehouses, and factories.
- It defines *major fiber release* as "any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of more than 3 square or linear feet of friable ACBM."
- It defines *minor fiber release* as "any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of 3 square or linear feet or less of friable ACBM."
- It specifies additional training requirements, as shown below, for the accredited asbestos disciplines and recommends that states adopt a sixth discipline, that of "project monitor."

The ASHARA training requirements are as follows:

- The asbestos inspector must:
  - Attend an accredited 3-day (24-hour) training course.
  - Pass a 50-question multiple choice test with a minimum score of 70.
  - Attend 1 half-day annual refresher course.
- The management planner must:
  - Successfully complete an accredited 3-day (24-hour) asbestos inspector course plus a 2-day (16-hour) management planner course.
  - Pass a 50-question multiple choice test with a minimum score of 70.
  - Attend annual refresher training consisting of 1 half-day inspector course and 1 half-day management planner course.
- The project designer must:
  - Attend an accredited 3-day (24-hour) project designer course and pass a 100-question multiple-choice test with a minimum score of 70.
  - Attend a 1-day (8-hour) annual refresher course.
- The contractor or supervisor must:
  - Attend an accredited 5-day (40-hour) training course and pass a 100-question multiple choice test with a minimum score of 70.
  - Attend a 1-day (8-hour) annual refresher course.
- The asbestos worker must:
  - Attend an accredited 4-day (32-hour) worker training course and pass a 50-question multiple choice test with a minimum score of 70.
  - Attend a 1-day (8-hour) annual refresher course.
- The project monitor must:
  - Attend a 5-day (40-hour) training course with individual states establishing testing and certification programs.

Note: EPA recommends the asbestos project monitor job title, but current regulations do not require it. Project monitors observe abatement activities performed by contractors and generally serve as the owner's representative to ensure that abatement work is completed

according to specification and in compliance with all relevant statutes and regulations.

3-8 Asbestos NESHAP Demolition

3-8.1 Demolition Decision Tree

The primary focus of this section is a demolition decision tree (Exhibits 3-8.1a through 3-8.1c) that is designed to help inspectors decide which of the NESHAP regulatory requirements concerning regulated asbestos-containing material (RACM) are applicable to a given situation. Determining compliance with these requirements is addressed in the inspection checklist found in *Guidelines for Asbestos NESHAP Demolition and Renovation Inspection Procedures* (EPA 340/1-90-007, revised November 1990). See section 5-11 for additional NESHAP regulatory guidance.

Regardless of the current status of a facility (e.g., a partially burned structure or a structurally sound facility), regulatory inspectors using the decision tree should always begin with Exhibit 3-8.1a. For example, if a demolition of a facility is an ordered demolition, the inspector must first determine if a qualified agency issued the order. An inspector should then determine if the agency ordered the demolition because the facility is structurally unsound and in danger of imminent collapse. If this factor is true, the decision process proceeds to Exhibit 3-8.1b, which details a chain of decisions an inspector should consider when conducting an asbestos NESHAP compliance inspection. When a facility is structurally sound and will *not* be demolished by intentional burning (normal demolition), the inspector skips Exhibit 3-8.1b and proceeds from Exhibit 3-8.1a to Exhibit 3-8.1c. Exhibit 3-8.1a covers demolition by intentional burning. The references in the decision boxes refer to 40 CFR, Part 61, Subpart M (NESHAP).

This section includes a list of pertinent definitions and a detailed explanation of the process including examples of situations that may be encountered. It also includes two case studies that demonstrate application of the demolition decision tree to real-life situations.

3-8.2 Inspection of Facilities Undergoing Ordered Demolition

Regulatory inspectors sent to make asbestos NESHAP inspections of facilities undergoing demolition (see Exhibit 3-8.1a) must first confirm whether or not the demolition is an ordered demolition and, if so, the reason for the order and its origin. This information should be included on the notification.

Exhibit 3-8.1a, Flowchart for Inspection of Facilities Undergoing Ordered Demolition

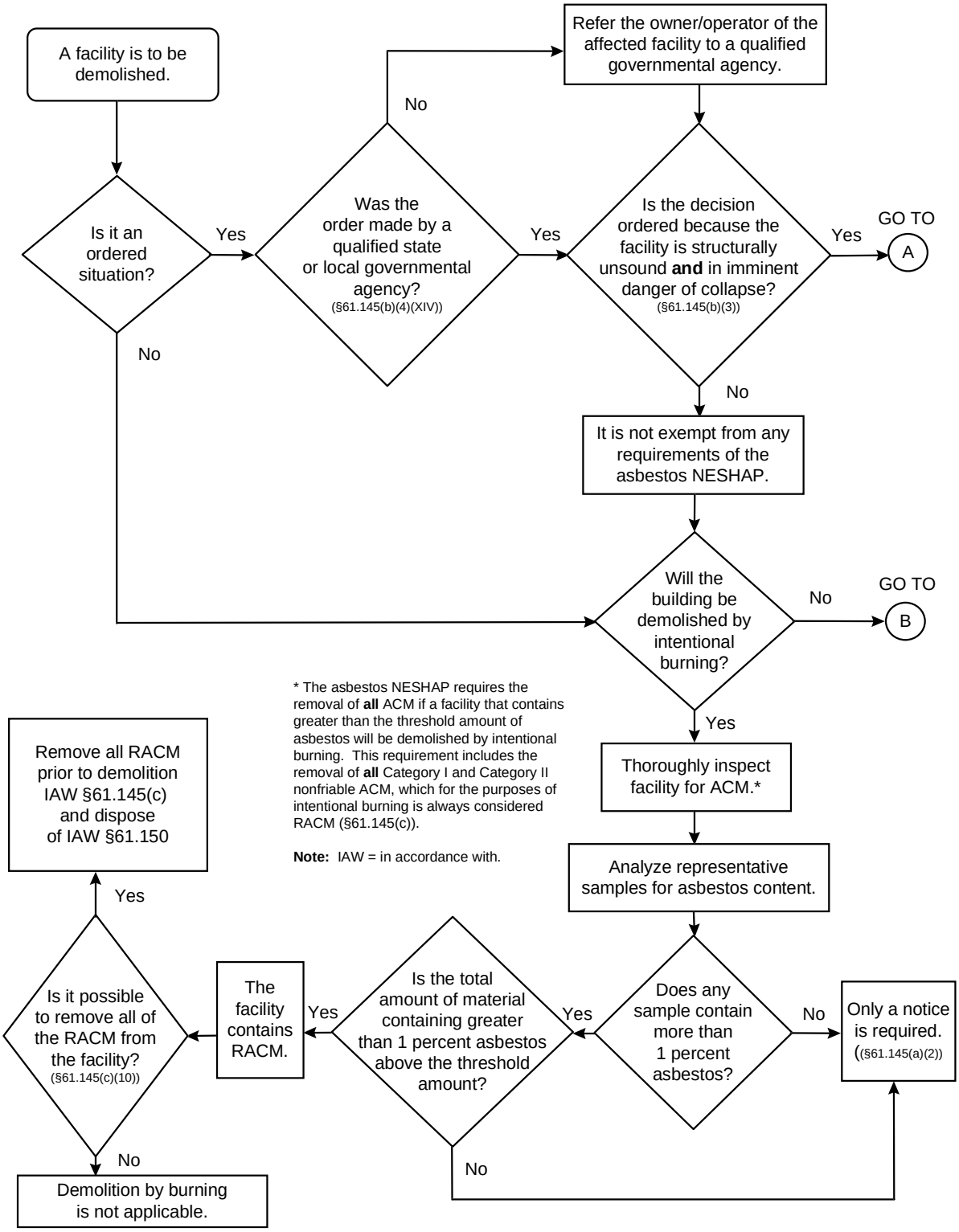


Exhibit 3-8.1b, Structurally Unsound Facility (Page 1)

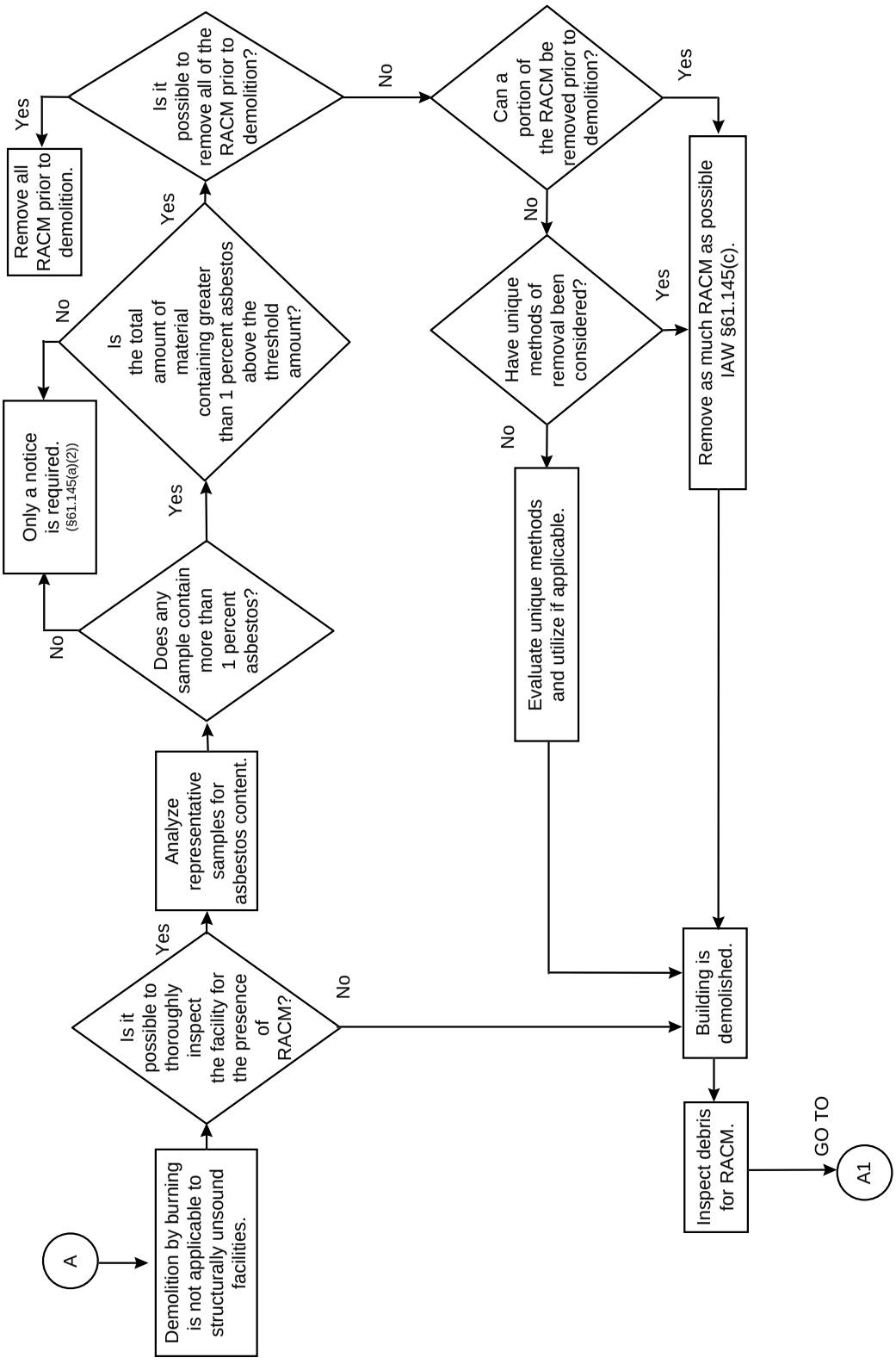
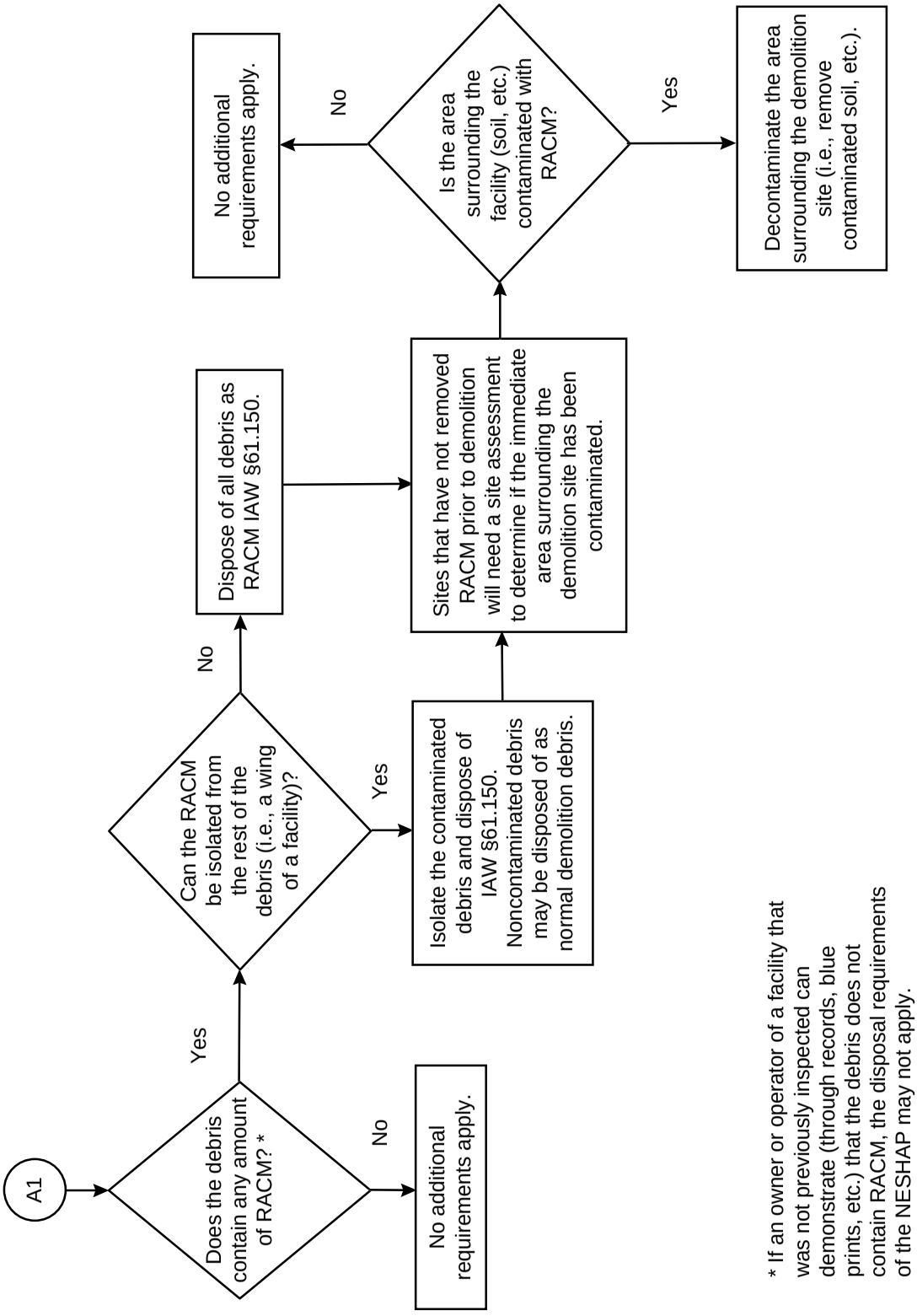


Exhibit 3-8.1b, Structurally Unsound Facility (Page 2)



* If an owner or operator of a facility that was not previously inspected can demonstrate (through records, blue prints, etc.) that the debris does not contain RACM, the disposal requirements of the NESHAP may not apply.

Exhibit 3-8.1c, Structurally Sound Facility (Page 1)

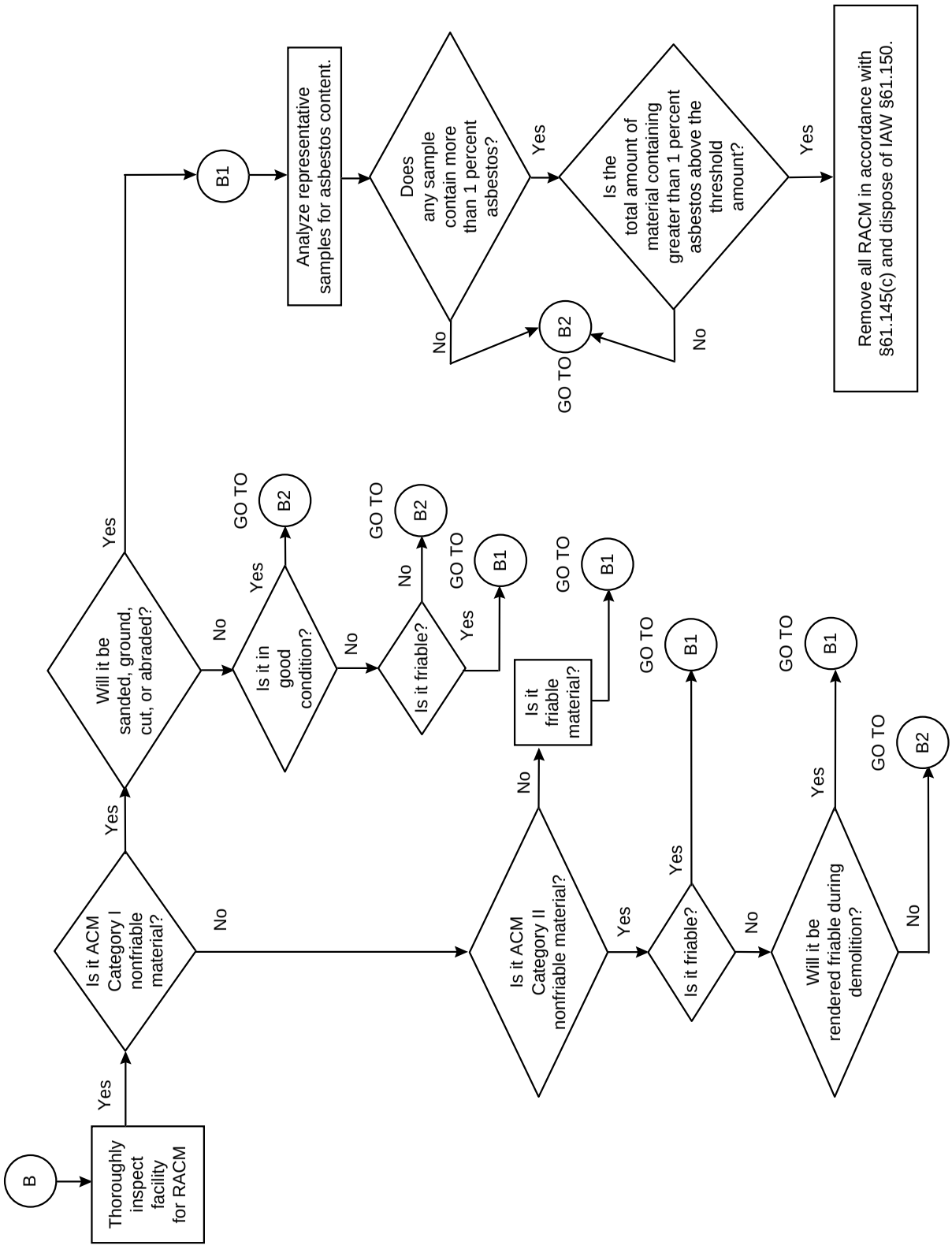
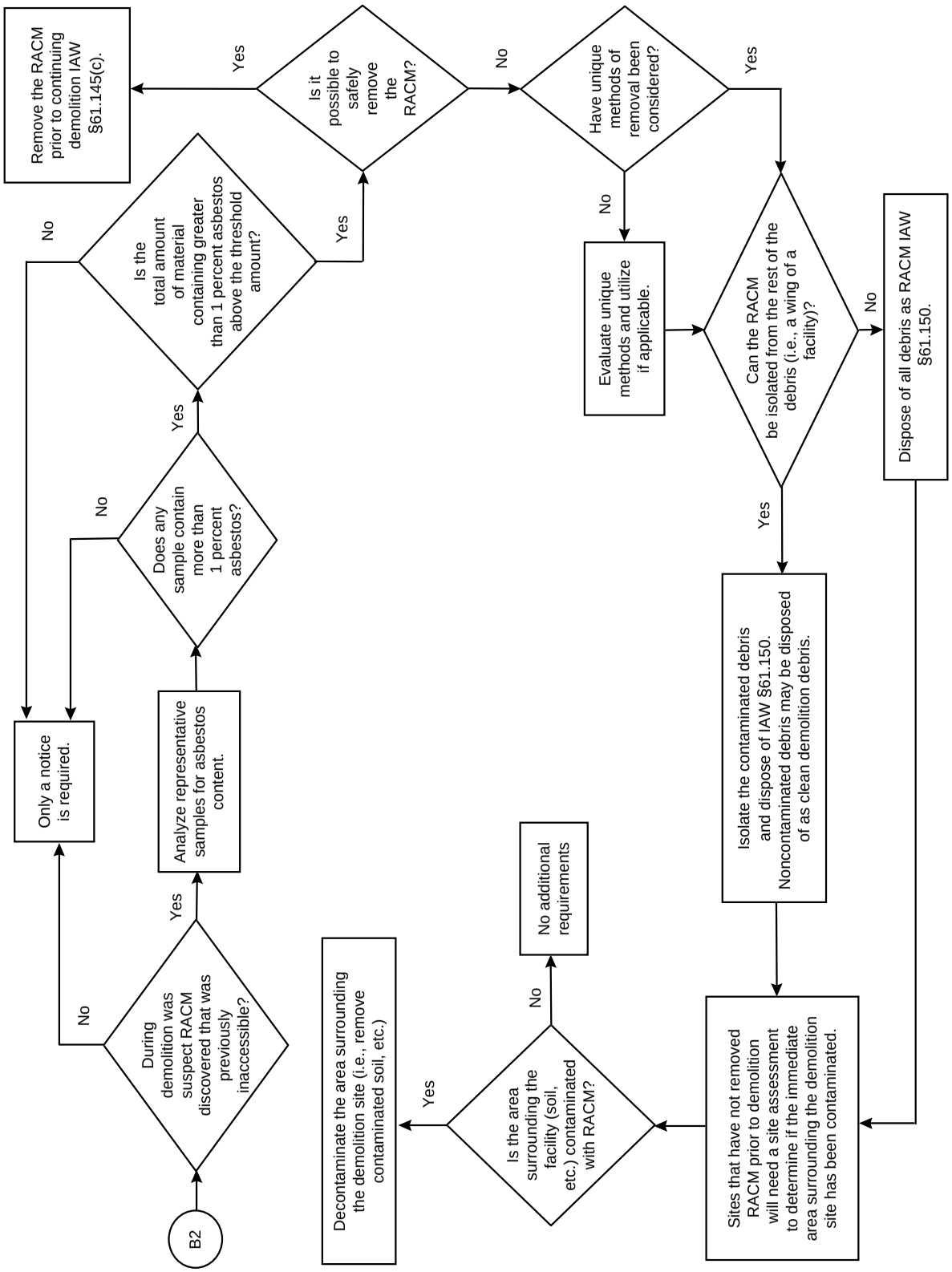


Exhibit 3-8.1c, Structurally Sound Facility (Page 2)



Inspectors must distinguish between ordered demolitions that are made because the facility is structurally unsound and in danger of imminent collapse and those that are ordered as part of one common project, such as a highway right-of-way or an urban renewal project. The former allows for some exemptions from the requirements of the asbestos NESHAP.

Demolitions ordered as part of one common project may, in fact, include facilities that are structurally sound. These facilities are not exempt from any of the requirements of the asbestos NESHAP. The owner or operator of such a facility is required to follow **all** the requirements of the asbestos NESHAP, including inspection and notification and, if applicable, abatement.

Buildings declared unsafe (demolition ordered by a state or local governmental agency) and in danger of collapse as a result of some emergency such as fire, earthquake, or other disaster typically must be demolished immediately and cannot await an EPA inspection. 40 CFR 61.145(a)(3) gives certain exemptions to the requirements of the asbestos NESHAP only when the facility is structurally unsound **and** in danger of imminent collapse. However, with respect to the procedures for emission control, ordered demolitions are subject to paragraphs (c)(4) through (c)(9) of Section 61.145. In addition, paragraphs (b)(1), (b)(2), (b)(3)(iii), (b)(4) (except(b)(4)(viii)), and (b)(5) of Section 61.145 still apply to ordered demolitions.

To discourage abuse of this provision, the notification that is submitted must identify the government representative who ordered the demolition, the date the order was issued, and the date demolition was ordered to begin. Representatives from a qualified governmental agency typically make those determinations.

If the appropriate agency is unable to make such a determination (e.g., because of lack of resources or personnel), that agency may retain the services of a private contractor or state regulatory agency to make the determination.

Conversely, it would be inappropriate for the owner or operator of a facility to retain the services of a private contractor or use in-house professionals to make such a determination because it would be in their best interests to have the building categorized as being structurally unsound in order to gain the exemptions and subsequent cost savings from not having to adhere to all of the requirements of the asbestos NESHAP.

3-8.3 Demolition of Structurally Unsound Facilities

Facilities declared unsafe and in danger of imminent collapse as a result of some emergency such as a fire, earthquake, or other disaster

cannot be demolished by fire because they cannot be properly inspected for the presence of asbestos (see Exhibit 3-8.1b). A representative from a qualified governmental agency typically makes this declaration.

Inspection of Facility

Facilities declared unsafe because of some emergency such as fire, earthquake, or other disaster can often be dangerous, and EPA does not expect an inspector to enter such an environment. Some facilities that are too dangerous to enter may contain suspect RACM (e.g., roofing, siding) that can be identified easily without entering the facility.

In some cases, a facility is declared unsafe when only one wall or a portion of a facility is unsound. Occasionally, the key structural load-supporting members from the facility are intentionally removed to make the facility unsound and avoid the applicable inspection and removal requirements of the asbestos NESHAP. In such cases, the owner or operator of that facility can do one of the following:

- Make the facility safe to enter by knocking down the portion that is unsafe or temporarily shoring up the structure so that the inspector can enter it to conduct a thorough inspection and, subsequently, trigger abatement if applicable.
- Identify materials in the safe portion of the facility that are suspect and abate them if applicable. Unsafe portions of the facility (portions that cannot be safely inspected) should be carefully pulled down while applying adequate amounts of water to control any visible emissions.
- Assume the entire facility or the portion that was not thoroughly inspected to contain asbestos and properly handle and dispose of all the demolition debris as asbestos-containing waste material.
- Thoroughly inspect any portion of a facility that can be safely entered. A thorough inspection includes identifying all ACM present, including Category I and II nonfriable ACM and the quantities affected, the nature of the demolition, and the steps that will be taken to control any release of fibers.

EPA requires that inspectors in the regulated community attend and pass the 3-day Building Inspectors Course under 40 CFR Part 763, the revised *Asbestos Model Accreditation Plan* (MAP) as mandated by Section 15(a)(3) of ASHARA.

Material Identification and Analysis

Before demolition may begin, all suspect ACM (all material that can be safely examined), including Category I and II nonfriable material, must be identified. Then it must be determined if the facility contains greater than the threshold amount (260 linear feet, 160 square feet, or 35 cubic feet). If it does, the material(s) is (are) assumed to be RACM or must be sampled (in the safe portion of the facility) and analyzed to verify that RACM is or is not present.

Category I nonfriable material that has not been or will not be subjected to sanding, cutting, or abrading and will not become friable during demolition and subsequent cleanup is not subject to the handling requirements of the asbestos NESHAP.

Category II nonfriable material that is not friable and has not or will not become friable (crumbled, pulverized, or reduced to powder) during demolition and subsequent cleanup is not subject to the handling requirements of the asbestos NESHAP.

If either the suspect amount of asbestos is below the threshold amount or the asbestos content of the representative sample(s) contains less than one percent, only the notice requirements listed in 40 CFR 61.145(a)(3) apply.

Removal of RACM Prior to Demolition

RACM that exists in quantities above the threshold amount (that can be safely removed) must be removed before demolition. RACM may include Category I nonfriable material that is friable or is likely to be subjected to sanding, grinding, cutting, or abrading during demolition. Most normal demolition techniques will not require the removal of Category I nonfriable ACM that is not in poor condition and is not friable before the demolition. However, waste consolidation methods, both at the demolition site and at the disposal site, may render these materials friable. RACM may also include Category II nonfriable material that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material during demolition. Most, if not all, Category II nonfriable ACM is expected to become RACM during demolition. EPA recommends that all Category II nonfriable ACM be removed before demolition to avoid any further requirements of the asbestos NESHAP.

Evaluation of Unique Methods for Removing RACM

When RACM is difficult or “impossible” to remove, innovative methods of removal should be evaluated and used, if applicable. These unique methods might include the use of such equipment as cranes or a

specially adapted grappling bucket (Bainbridge Case Study, see section 3-9). If the contractor has not considered unique methods, the demolition should not continue while the RACM remains in place until the contractor considers unique methods and determines them to be infeasible.

When the asbestos cannot be safely removed, the ACM must be kept wet and the entire asbestos-contaminated waste pile (or the portion that is contaminated) must be disposed of as asbestos-containing waste material in accordance with 40 CFR 61.150.

Postdemolition Inspection for RACM-Contaminated Debris

Demolition debris from a facility that is demolished without an inspection or demolished with RACM in place must be inspected. All ACM must be identified and treated properly.

Debris that is inspected and found to contain any amount of RACM is assumed to be entirely contaminated unless (a) the owner or operator of the facility can demonstrate through building or maintenance records that the facility either contains no asbestos or that the quantities are less than the threshold amount or (b) the contaminated debris can be sufficiently isolated from the majority of the demolition debris.

Isolating RACM-Contaminated Debris

Sometimes RACM is identified in only one room of a facility or a wing of a facility. Contaminated debris that can be isolated should be disposed of in accordance with Section 61.150 of the asbestos NESHAP, and the remainder of the debris (uncontaminated debris) can be disposed of as normal “clean” demolition debris. The determination should be based on a visual inspection, sampling, and analysis of the debris. If any asbestos contamination is found in an area (even below one percent), the waste must be disposed of in accordance with Section 61.150, unless the owner or operator of the affected facility can demonstrate that the intact material contained less than one percent.

Site Assessment

Any facility that undergoes demolition without removing all of the RACM should undergo a site assessment to determine if the immediate area surrounding the facility has been contaminated with asbestos. A site assessment should include, but is not limited to, a visual evaluation and a comprehensive soil sampling scheme to determine compliance with the asbestos NESHAP. The degree of testing should be evaluated on a case-by-case basis.

Decontamination of Area Surrounding Demolition Site

If a site assessment detects contamination of soil surrounding a demolition site, the site must be cleaned up to background levels of asbestos contamination. Alternatively, the site may be operated in accordance with 40 CFR 61.154 (standard for active waste disposal sites) and subsequently closed in accordance with 40 CFR 61.151 (standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations). However, according to 40 CFR 61.05, establishing an active waste site requires prior approval from EPA or the delegated state program. To clean up the site to background levels, it will probably be necessary to remove all the asbestos-contaminated soil. The contaminated soil should be treated and disposed of as asbestos-containing waste material. See section 7-6 for further guidance on removal actions.

3-8.4 Structurally Sound Facilities Undergoing Normal (Other Than Intentional Burning) Demolition

Inspection of a Facility

A majority of inspections will be of structurally sound facilities undergoing normal (other than intentional burning) demolition (see Exhibit 3-8.1c). Guidance for demolitions can be found in *A Guide to Normal Demolition Practices Under the Asbestos NESHAP* (EPA 340/1-92-013, September 1992). Section 61.145 requires a thorough inspection of the affected facility before demolition. The responsibility to inspect thoroughly lies with the owner or operator of the affected facility.

A thorough inspection includes identifying all ACM present, including Category I and II nonfriable ACM and the affected quantities, the nature of the demolition, and the steps that will be taken to control any release of fibers. Guidance for inspections can be found in EPA's *Guidelines for Asbestos NESHAP Demolition and Renovation Inspection Procedures* (EPA 340/1-90-007, November 1990, (Revision)).

EPA requires inspectors in the regulated community to attend and pass the 3-day Building Inspectors course under 40 CFR Part 763, the revised MAP as mandated by section 15(a)(3) of the ASHARA.

Material Identification and Analysis

Category I nonfriable material that has not been or will not be subjected to sanding, cutting, or abrading and will not become friable during demolition and subsequent cleanup and disposal is not subject to the handling requirements of the asbestos NESHAP.

Category II nonfriable material that is not friable and will not become friable (crumbled, pulverized, or reduced to powder) during demolition and subsequent cleanup is not subject to the handling requirements of the asbestos NESHAP.

Once all suspect RACM has been identified and it is determined that the facility contains greater than the threshold amount (260 linear feet, 160 square feet, or 35 cubic feet), it must be assumed that the material(s) is (are) RACM, or else the material must be sampled and analyzed to verify that RACM is or is not present.

If either the suspect amount of asbestos is below the threshold amount or the asbestos content of the representative sample(s) contains less than one percent, only the notice requirements listed in 40 CFR 61.145(a)(3) apply.

Removal of RACM Prior to Demolition

If RACM exists in quantities above the threshold amount, then all the RACM must be removed before demolition. RACM may include Category I nonfriable material that is friable or is likely to be subjected to sanding, grinding, cutting, abrading, or burning during demolition. Most normal demolition techniques will not require the removal of Category I nonfriable ACM that is not in poor condition and is not friable before the demolition. However, waste consolidation methods, both at the demolition site and at the disposal site, may render these materials friable. RACM may also include Category II nonfriable materials that have a high probability of becoming crumbled, pulverized, or reduced to powder by the force expected to act on the material during the course of demolition. Most Category II nonfriable ACM must be removed before demolition to avoid any further requirements of the asbestos NESHAP.

Discovery of RACM During Demolition

Samples must be taken of suspect RACM, discovered during demolition, that was previously inaccessible. It must be analyzed for asbestos content when the combined amount of suspect RACM (the amount of RACM identified during the initial inspection and the amount of newly discovered suspect material) is above the threshold amount.

If the threshold amount is exceeded and the samples tested contain more than one percent asbestos, all of the RACM must be removed if possible. If the asbestos cannot be safely removed, the ACM must be kept wet, and the entire waste pile (or the portion that contains asbestos-containing waste material) must be disposed of as asbestos-containing waste material in accordance with 40 CFR 61.150.

When the combined amount of suspect RACM is less than the threshold amount or the samples of intact material (not samples of contaminated waste) contain less than one percent of asbestos, only the notice requirements found in 40 CFR 61.145(a)(3) apply to the demolition.

Evaluation of Unique Methods for Removing RACM

When newly discovered RACM is difficult or “impossible” to remove, innovative methods of removal should be evaluated and used, if applicable. These unique methods might include using such equipment as cranes or a specially adapted grappling bucket (Bainbridge Case Study, see section 3-9) or temporarily shoring up a structure. If the contractor has not considered unique methods, the demolition should not continue while the RACM remains in place until the contractor has considered unique methods and determined them to be infeasible.

When the asbestos cannot be safely removed, the ACM must be kept wet, and the entire asbestos-contaminated waste pile (or the portion that is contaminated) must be disposed of as asbestos-containing waste material in accordance with 40 CFR 61.150.

Isolating RACM-Contaminated Debris

Sometimes RACM is identified in only one room of a facility or a wing of a facility. Contaminated debris that can be isolated must still be disposed of in accordance with 40 CFR 61.150 of the asbestos NESHAP, and the remainder of the debris (uncontaminated) may be disposed of as normal “clean” demolition debris. The determination should be based on a visual inspection, sampling, and analysis of the waste. If any asbestos contamination is found in an area (even below one percent), then the waste must be disposed of in accordance with Section 61.150, unless the owner or operator of the affected facility can demonstrate that the intact material contained less than one percent.

Site Assessment

Any facility that undergoes demolition without removing all of the RACM should undergo a site assessment to determine if the immediate area surrounding the facility has been contaminated with asbestos. A site assessment should include, but is not limited to, a visual evaluation and a comprehensive soil sampling scheme to determine compliance with the asbestos NESHAP. The degree of testing should be evaluated on a case-by-case basis.

Decontamination of Demolition Site

If the surrounding soil has been contaminated by the demolition activities at the site, the site must be cleaned up to background levels of asbestos contamination. Alternatively, the site may be operated in accordance with Section 61.154 (standard for active waste disposal sites) and closed in accordance with Section 61.151 (standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations). However, according to 40 CFR Section 61.05, establishing an active waste site requires prior approval from EPA or the delegated state program. To clean up the site to background levels, it will probably be necessary to remove all the asbestos-contaminated soil. The contaminated soil should be treated and disposed of as asbestos-containing waste material. See section 7-6 for further guidance on removal actions.

3-8.5 Demolition of a Facility by Intentional Burning

Before demolition by intentional burning, the following must take place:

- A thorough inspection of the affected facility in accordance with Section 61.145. (EPA requires inspectors in the regulated community to attend and pass the 3-day Building Inspectors Course under 40 CFR Part 763, the revised MAP as mandated by Section 15(a)(3) of ASHARA.).
- Material identification and analysis of all suspect ACM, including all Category I and II nonfriable material.
- Removal of RACM including the removal of **all** Category I and II nonfriable ACM, which for the purposes of intentional burning shall always be considered RACM (Section 61.145(c)).

3-8.6 NESHAP Definitions

The following definitions are central to this section:

- **Installation** — any building or structure or any group of buildings or structures at a single demolition or renovation site that is under the control of the same owner or operator (or owner or operator is under common control).
- **Asbestos-containing waste material** — regulated asbestos-containing waste material and materials contaminated with asbestos. This definition also includes disposable equipment and clothing.
- **RACM** — (a) friable material; (b) Category I nonfriable material that has become friable; (c) Category I nonfriable material that will be or has been subjected to sanding,

grinding, cutting, or abrading; or (d) Category II nonfriable material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on it during the course of the demolition.

- **Facility** — 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 building, structure, or installation 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 subpart is not excluded, regardless of its current use or function.

The following definitions are used only for the purposes of this guide:

- **Ordered demolition** — a demolition that is mandated by order of a qualified state or local governmental agency because a facility is either structurally unsound and in danger of imminent collapse or is being demolished as part of a government project (e.g., urban renewal project or road project).
- **Qualified state or local governmental agency** — the governmental agency that has legal authority to inspect a facility and declare it structurally unsound and in imminent danger of collapse. Generally, the local building department or local engineering department has these responsibilities. In order for such an agency to make declarations concerning a building's structural soundness and risk of collapse, the persons making such determinations must have appropriate training or experience.
- **Suspect RACM** — any material that is believed to contain asbestos that is either friable or Category I or II nonfriable material that has or will become regulated by actions that are expected to act upon the material.
- **Unique methods** — any method of removing RACM that is not normally or has not been previously considered but, if implemented, will allow the owner or operator to remove RACM in situations otherwise thought too dangerous or impossible (e.g., the removal of material from a structurally unsound facility).

3-9 Case Study — Bainbridge Naval Training Center

3-9.1 Background

The Bainbridge Naval Training Center (BNTC) near Port Deposit, Maryland, is a federal facility owned by the U.S. Navy. It occupies approximately 1,300 acres in a residential and rural area in northeast Maryland. The BNTC was an active Navy facility from the early 1940s until 1976. On November 3, 1986, the U.S. Congress authorized the Secretary of the Navy to dispose of the Bainbridge facility by sale to private parties or transfer to other government agencies. Over 700 abandoned buildings and structures in various stages of dilapidation existed on the site. Congress specified that before any sale, the Secretary of the Navy must "restore such property to a condition that meets all applicable Federal and State of Maryland environmental protection regulations" (Public Law 99–956).

3-9.2 Site Description

The buildings at BNTC were mainly one- to three-story wood frame structures. A few of the buildings were masonry, and several of the wood frame structures had concrete grade slabs. Some of the buildings contained friable asbestos in the form of boiler wrap and pipe lagging, and most buildings had asbestos-cement transite board (Category II nonfriable ACM) on the exterior, the interior, or in both areas. Because of the age of the buildings, the lack of maintenance, exposure to the elements, and vandalism, the buildings at BNTC were in various stages of dilapidation. Some of the structures had collapsed entirely, and nearly all the other structures to be demolished had sustained some structural damage. Therefore, thorough inspections were difficult and in some cases impossible.

3-9.3 Navy's Preliminary Agreement With the State of Maryland

The Navy decided to turn the BNTC site over to the State of Maryland. In doing so, the Navy agreed, as mandated by Congress, to "restore the property to a condition that meets all applicable Federal and State of Maryland environmental protection regulations." The restoration activities included demolition and cleanup at the BNTC site. The Navy contracted a private demolition company to demolish and clean up the BNTC site. Before EPA's involvement, most buildings that were standing at the BNTC had only friable asbestos insulation removed before demolition.

3-9.4 Regulatory Inspections

During several inspections of the BNTC site in 1991, EPA inspectors observed that the demolition activities were being conducted in

violation of the notification, demolition, emission control, and disposal requirements of the asbestos NESHAP. The State of Maryland and the Navy initially thought that the transite material found on the exterior and interior of most buildings was exempt from the requirements of the asbestos NESHAP. The intent of EPA to regulate the demolition of buildings containing transite material (asbestos-cement material) is expressed in the preamble to the final promulgation of the asbestos NESHAP published November 20, 1990, 55 FR 48408. EPA made an applicability determination on January 8, 1992, to further clarify the types of activities that are likely to cause Category II nonfriable ACM to become RACM.

The Navy then conducted an inspection of the BNTC and concluded that all but four of the buildings were structurally unsound. The Navy inspected the buildings and categorized them into four classes:

- Remedial Class 1: a building requiring removal of all friable asbestos (primarily insulation materials), but that would not be demolished.
- Remedial Class 2: a building requiring predemolition "removal of friable asbestos from parts of the structure that can be safely entered."
- Remedial Class 3: a building that had collapsed or is structurally unsound in its present condition and is to be demolished "as is," with the debris treated as asbestos-containing waste material.
- Remedial Class 4: a building requiring no action.

The Navy categorized most of the buildings as Remedial Class 3; therefore, buildings were demolished "as is," with no abatement before demolition, and the debris was treated as ACM.

3-9.5 Application of Demolition Decision Tree to the BNTC

The demolition decision tree is written in a generic format so that it can be applied to various demolition scenarios. The BNTC site, because of the number and variety of buildings, is a good example of how applying the decision tree can help inspectors decide which of the NESHAP regulatory requirements are applicable to a given demolition.

Inspection of Facilities

In applying the decision tree to the BNTC site (beginning with Exhibit 3-8.1a), the inspector should first determine whether the demolition is an ordered demolition. If the demolition is **not** an ordered demolition, the facility is **not** exempt from any of the requirements of the asbestos NESHAP. When demolitions are "ordered," the inspector

should determine if an appropriate governmental agency gave the order. Although EPA does not have any criteria for such determinations, registered engineers or building inspectors who are trained (qualified) should make the decisions at the request of the regulating agency. Ordered demolitions typically come from a governmental agency that regulates building safety.

The fact that a facility is off-limits or has been declared unusable is insufficient grounds for allowing certain exemptions (Section 61.145(a)(3)) to the requirements of the asbestos NESHAP. Before starting demolition at the BNTC site, the Navy conducted its own survey and concluded that the vast majority of the buildings were structurally unsound. According to Exhibit 3-8.1a, the Navy's initial survey was inappropriate. The appropriate procedure in this situation would have been for the State of Maryland, EPA, or an independent contractor (agreed to by the regulatory agency and the Navy) to conduct a comprehensive survey of the affected facilities.

Structurally Unsound Facilities

When facilities are declared structurally unsound **and** in danger of imminent collapse, activities for those facilities move from Exhibit 3-8.1a to Exhibit 3-8.1b. The Navy categorized the buildings declared structurally unsound at the BNTC site as Remedial Class 3 buildings.

Regulatory inspectors should then determine if the owner or operator can inspect a facility or the portion that is safe for the presence of asbestos. If facilities or safe portions of facilities contain suspect RACM in amounts greater than the threshold amount, representative samples should be analyzed for asbestos content. If the samples contain more than one percent asbestos, inspectors should investigate the possibilities of removing all the suspect RACM or RACM from the safe portions (Remedial Class 2) of the facility. Whenever possible, all RACM should be removed before demolition.

When inspectors identify RACM in facilities that have been declared unsafe, they should evaluate unique methods for removing the RACM. Unique methods may include demolishing the portion deemed unsafe or temporarily shoring up the unsafe portion of the structure to create a safe working environment for proper inspection and abatement, as applicable. Other unique methods might include using specially adapted demolition equipment. The demolition contractor at the BNTC site tried to remove the transite siding with a modified grappling bucket. This method proved ineffective, forcing the demolition contractor to remove as much of the transite material as deemed feasible by hand. If the contractor has not considered unique methods, the demolition should not continue while the RACM remains in place until the contractor has considered unique methods and determined that they are infeasible.

The lower portion of Exhibit 3-8.1b should make it clear to an inspector that demolition debris from facilities not thoroughly inspected or debris from facilities demolished with RACM in place must be thoroughly inspected. Debris containing any amount of asbestos (even below one percent) should be treated and disposed of as RACM in accordance with Section 61.150. Uncontaminated material that can be isolated from asbestos-contaminated waste may be disposed of as “clean” demolition debris in any landfill that normally accepts demolition material. Because the demolition techniques used at the BNTC site caused most, if not all, transite material (Category II nonfriable) to become RACM, the demolition debris was assumed to be entirely asbestos-contaminated and was disposed of as RACM in accordance with the NESHAP.

EPA inspectors observed that the demolition activities violated the emissions control requirements of the asbestos NESHAP (Section 61.145(c)). The observed visible emissions at the BNTC site and the data obtained through air monitoring were enough evidence to expect some degree of contamination to the environment in and around the demolition sites. To fulfill its obligation to “restore such property to a condition that meets all applicable Federal and State of Maryland environmental protection regulations,” the Navy had to submit a comprehensive soil sampling protocol for determining possible site contamination levels at the BNTC site. The results of the soil sampling revealed contamination at those sites demolished with transite material in place. As a result of the contamination, the soil was removed and disposed of as asbestos-containing waste material.

3-9.6 Lessons Learned

The BNTC case is a good example of how applying the demolition decision tree would have prevented confusion as to which of the regulatory requirements were applicable to the demolition activities. Specifically, it could have made clear EPA’s intent on regulating the demolition of buildings containing transite material.

3-10 Case Study — Jewel Lake Condominium

3-10.1 Background

The Jewel Lake Condominium facility in Anchorage, Alaska, was a 20-unit, 3-story structure that suffered extensive fire damage. The third floor and main stairway were severely burned. Smoke and water damage were prevalent throughout the remainder of the building. Both the Alaska Department of Occupational Health and Safety (ADOHS) and the Municipality of Anchorage (MOA) Public Works Department Division of Building Safety declared it a public nuisance and hazard.

The MOA condemned it and declared it unsafe because of the danger of imminent collapse.

A survey of the facility found extensive use of ACM within the surviving portions of the building. The building contained 28 fire doors (containing Amosite) and 12,000 square feet of asbestos-containing sprayed-on material (acoustical plaster).

The original demolition plan called for a complete knockdown of the structure. The plan also called for a backhoe to break up the debris before disposing of the entire debris pile as asbestos-contaminated waste. The building was located in a densely populated neighborhood, and the work was to be conducted at temperatures below freezing, which would make the application of adequate amounts of water impractical.

3-10.2 Application of Demolition Decision Tree to Jewel Lake Condominium

In applying the decision tree to the Jewel Lake Condominium site, an inspector should first confirm that a qualified governmental agency ordered the demolition. The Jewel Lake site was “ordered” by the ADOHS and the MOA. Both the ADOHS and the MOA conform to the definition of “qualified governmental agency.” The inspector should then determine if the order was made because the facility is structurally unsound **and** in danger of imminent collapse. The Jewel Lake facility suffered extensive fire damage, which caused the structure to become structurally unsound **and** in danger of imminent collapse. A construction engineer working for the MOA made this determination. In addressing structurally unsound facilities in the decision tree, an inspector should move from Exhibit 3-8.1a to Exhibit 3-8.1b.

A thorough inspection of the facility confirmed the presence of suspect ACMs in quantities above the threshold amount. Subsequent analyses of the suspect materials confirmed the presence of asbestos. Using the middle section of Exhibit 3-8.1b (unique methods), the inspector should determine if using unique methods will facilitate the removal of RACM before demolition. The “unique methods” used at the Jewel Lake site included the knockdown and removal of only the damaged portion (unsafe portion) of the facility. This portion was removed with adequate amounts of water and disposed of entirely as ACM. The remaining intact portion of the facility was demolished and disposed of as normal debris after abatement of all the remaining RACM.

3-10.3 Lessons Learned

Applying the demolition decision tree to the Jewel Lake site would have clearly defined which portions of the asbestos NESHAP are applicable. The demolition decision tree guidance clearly states that, even when a

facility is declared unsafe, all options of removing RACM should be considered. In the Jewel Lake case, the upper floor (the burned-out portion) was removed to create a safe working environment so that all remaining RACM could be properly abated before the demolition. Removing the damaged portion of the Jewel Lake facility avoided the near-certain contamination to the surrounding neighborhood that would have occurred under the proposed work plan.

3-11 Resource Conservation and Recovery Act

RCRA regulations do not consider asbestos as a hazardous or regulated waste. California is the only state that regulates asbestos as a hazardous waste. See Appendix A for tables of state regulatory information, and Appendix B for regulatory points of contact to use to determine the waste category status of asbestos in the affected locale.

3-12 Comprehensive Environmental Response, Compensation, and Liability Act (of 1980)

Under both the Toxic Substances Control Act (TSCA) and the Clean Air Act (CAA), specifically NESHAP, asbestos is a regulated substance with a reportable quantity (RQ) limit of 1 pound. This RQ means that any release of asbestos fibers in 1 calendar year that equals or exceeds the 1-pound limit must be reported to the proper federal authorities. Failure to properly report such asbestos release episodes may also subject the Postal Service to other provisions of the Superfund amendments of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

4 Contracting Actions

4-1 Postal Service Contract Types and Procedures

This section summarizes the most important information about purchasing and contracting for asbestos-related services. A new *Purchasing Manual* was prepared and issued on January 31, 1997.

4-1.1 Summary of Types of Contracts and Contracting Procedures

The purchasing and materials service centers (PMSCs) are not actively involved with asbestos. The PMSCs purchase asbestos studies and surveys but, because of the Davis-Bacon restrictions, cannot purchase requirements for the design of abatement projects or for the abatement of the asbestos. The FSO or MFO must award any contract involving abatement project design and asbestos abatement.

The type of contract awarded by a purchasing office differs according to the specific requirement. For instance, if the task requires an asbestos survey at every site throughout the district, a PMSC would probably use a firm-fixed-price contract. When the Postal Service must survey for asbestos, but does not know the locations or the number of facilities involved, a PMSC probably would use an indefinite quantity contract.

FSOs or MFOs are involved with the design of abatement projects and the abatement of asbestos. Typically, they use indefinite quantity contracts to cover these requirements, since they do not know the locations or number of facilities.

The Postal Service can use local buying procedures to purchase asbestos services that include surveys and abatement actions because asbestos-related services are not a restricted purchase under the current regulations contained in section 713 of the *Administrative Support Manual.* However, this practice is not recommended because of federal, state, and local regulations and guidelines. If the cost to meet a requirement for an asbestos survey exceeds $2,500, then the procurement is subject to the Service Contract Act (SCA), and the PMSC must purchase it. If the requirement for asbestos design and abatement exceeds $2,000, it is subject to Davis-Bacon, and the FSO or MFO must purchase it. Although these purchases are not restricted, requirements less than the $2,500 and $2,000 thresholds should be sent to the PMSCs or the FSOs or MFOs, respectively, because of the stringent laws and regulations. A listing of PMSC and FSO or MFO locations can be found in Exhibit 4-1.1.

At least $100,000 in contracting authority has been delegated to each Administrative Support unit for repair and alteration projects that require no additional land. These minor repairs and alterations to postal buildings include painting.

Exhibit 4-1.1, PMSC, FSO, and MFO Locations

Location and Address	Phone Number	FAX Number
Purchasing and materials service centers		
GREAT LAKES AREA CHICAGO PMSC 150 SOUTH WACKER DRIVE SUITE 200 CHICAGO IL 60606-4100	(312) 424-2449	(312) 424-3170
SOUTHWEST AREA DALLAS PMSC PO BOX 667190 DALLAS TX 75266-7190	(214) 819-7100	(214) 819-7125
WESTERN AREA DENVER PMSC 3300 S PARKER ROAD SUITE 400 AURORA CO 80014-3500	(303) 369-1205	(303) 369-1208
MID-ATLANTIC AREA GREENSBORO PMSC PO BOX 27496 7029 ALBERT PICK ROAD 3RD FLOOR GREENSBORO NC 27498-0001	(910) 665-2860	(910) 665-2866
SOUTHEAST AREA MEMPHIS PMSC 225 N HUMPHREYS BOULEVARD MEMPHIS TN 38155-6260	(901) 747-7530	(901) 747-7492
MIDWEST AREA MINNEAPOLIS PMSC 2051 KILLEBREW DRIVE SUITE 610 BLOOMINGTON MN 55425-1880	(612) 851-1187	(612) 851-1112
NEW YORK METRO AREA HOBOKEN PMSC 2 HUDSON PLACE 6TH FLOOR HOBOKEN NJ 07030-5515	(201) 217-2201	(201) 217-2230
ALLEGHENY AREA PHILADELPHIA PMSC PO BOX 40592 515 CHESTNUT STREET 15TH FLOOR PHILADELPHIA PA 19197-0592	(215) 931-5145	(215) 931-5154

Exhibit 4-1.1, PMSC, FSO, and MFO Locations (continued)

Location and Address	Phone Number	FAX Number
PACIFIC AREA SAN BRUNO PMSC 395 OYSTER POINT BLVD SO SAN FRANCISCO CA 94099-6260	(650) 794-6120	(650) 794-0427
NORTHEAST AREA WINDSOR PMSC 8 GRIFFIN ROAD NORTH WINDSOR CT 08095-1572	(860) 285-7200	(860) 285-7272
Facilities service offices and major facilities office		
MEMPHIS MFO 225 N HUMPHREYS BLVD MEMPHIS TN 38166-0300	(901) 747-7330	(901) 747-7444
ATLANTA FSO 4000 DEKALB TECHNOLOGY PARKWAY BUILDING 300 SUITE 300 ATLANTA GA 30340-2799	(770) 454-0605	(770) 454-0608
CHICAGO FSO 222 S RIVERSIDE PLAZA SUITE 1200 CHICAGO IL 60606-6150	(312) 669-5965	(312) 669-5959
COLUMBIA FSO 10500 LITTLE PATUXENT PARKWAY 2ND FLOOR BOX 701 COLUMBIA MD 21045-0701	(410) 997-6247	(301) 596-4163
DALLAS FSO 7800 N SEIMMONS FREEWAY SUITE 400 P O BOX 667180 DALLAS TX 75266-7180	(214) 819-7250 and (214) 819-7251	(214) 819-7280 and (214) 819-7290
DENVER FSO 8055 E TUFTS AVENUE PARKWAY 4TH FLOOR DENVER CO 80237-2881	(303) 220-6510	(303) 220-6552 and (303) 220-6511
GREENSBORO FSO 7029 ALBERT PICK ROAD 3RD FLOOR PO BOX 27497 GREENSBORO NC 27495-1103	(910) 665-2800	(910) 665-2865
KANSAS CITY FSO 6800 W 64TH STREET BUILDING 8 SUITE 100 OVERLAND PARK KS 66202-4171	(913) 831-1855 ext 401	(913) 831-4202
NEW YORK FSO 2 HUDSON PLACE 5TH FLOOR HOBOKEN NJ 07030-5502	(201) 714-3424	(201) 420-8990

Exhibit 4-1.1, PMSC, FSO, and MFO Locations (continued)

Location and Address	Phone Number	FAX Number
PACIFIC AREA FSO 395 OYSTER POINT BLVD SUITE 225 SO SAN FRANCISCO CA 94099-0300	(415) 794-6146	(415) 794-0820
WINDSOR FSO 6 GRIFFIN ROAD NORTH WINDSOR CT 06006-0300	(860) 285-7117	(860) 285-1287
DC METRO FSO 10400 LITTLE PATUXENT PARKWAY SUITE 400 COLUMBIA MD 21044-3510	(410) 884-1811 and (410) 884-1810	(410) 884-1850
Miscellaneous		
MIAMI REAL ESTATE OFFICE 7499 NW 31ST STREET MIAMI FL 33177-9991	(301) 418-7325	(305) 418-7321 and (305) 418-7333
SEATTLE FACILITIES FIELD OFFICE 34301 9TH AVENUE SOUTH 3RD FLOOR FEDERAL WAY WA 98063-6721	(206) 925-9714	(206) 874-7205
SALT LAKE CITY FIELD OFFICE 448 E 6400 SOUTH SUITE 175 SALT LAKE CITY UT 84107-7591	(801) 261-1080	(801) 281-8728

4-1.2 Local Contracting Resources

(This section may be used for the insertion of local procedures, as applicable.)

4-2 Statements of Work

The following statements of work (SOWs) should help Postal Service area and district offices solicit technical support services for asbestos-related services. In general, these documents must be modified for use as postal solicitation documents. Users must provide detailed information and make appropriate changes, where necessary, to adapt these generic documents to meet site-specific needs. All of the SOWs discussed below are located on the Postal Service's internal web site.

4-2.1 Identification and Control of ACM and Lead-Based Paint

Use this SOW to contract for professional services in support of ACM and lead-based paint (LBP) programs. This document covers the following services:

- Field surveys and suspect material investigation.
- Environmental air monitoring and sampling.
- Bulk sampling of suspect materials.
- Laboratory analyses.
- Target area surveys.
- AHERA surveys.
- Appropriate training and notifications.
- Development of ACM and LBP O&M plans.
- Abatement designs and cost estimates.
- Engineer drawings using computer-aided design (CAD) systems.
- Written reports, field observations, and project management.

4-2.2 ACBM

This SOW has three versions. The first version mirrors the services provided by the ACM and LBP SOW, but only applies to asbestos-related services.

The second version applies only to asbestos surveys, either for entire facilities or targeted areas, and supports the associate office infrastructure (AOI) program. This version of the SOW does not support abatement action or repair and alteration projects. Use either the first version of the SOW or the ACM and LBP SOW for such services. Also, if this SOW is used, an electronic report of survey results must be produced that can be added to the Environmental Management Information System (EMIS) module.

The third version of this SOW supports proposed building purchases or leased space transactions. Do not use this SOW for abatement or repair and alteration projects. This SOW also contains the same provision for electronic reporting of survey results that can be added to the EMIS program.

4-2.3 ACM Targeted Area Response Assessment Services

Use this SOW as the basis for contracting services to respond to and investigate incidents of potential personnel exposures to suspected ACM or PACM at Postal Service facilities. The SOW contains provisions for AHERA-type surveys, appropriate training and employee notifications, and development of specific O&M plans for the areas surveyed. It also requires that the contractor recommend safe work practices. Also use this SOW to support the AOI program; however, do not use this document to contract for abatement or repair and alteration.

4-2.4 Asbestos Management Course Outline

Use this SOW to contract for asbestos management training courses. It provides the minimum acceptable content for a 40-hour course in asbestos management. Participants who complete a course such as the one outlined in this SOW should be eligible for certification in asbestos management at the federal or state level.

4-2.5 Asbestos Abatement Project Specifications

This SOW provides technical specifications for asbestos abatement projects. Use this SOW in conjunction with a term contracting mechanism for abatement services. Use the SOW for both small-scale and large-scale abatement projects. The SOW includes the following provisions:

- The general scope of work.
- Special requirements.
- Site preparation and decontamination.
- Corrective actions.
- Replacements.
- Painting and decorative finish specifications.

4-3 Asbestos Standard Clauses

The following standard clauses are examples of the material under development at Headquarters General Counsel.

4-3.1 Revised Construction Clause (Proposed)

The contractor, upon completion, must submit a notarized certification upon its company's letterhead stating that it has not included any ACM into the work except as specifically allowed by the contracting officer.

4-3.2 Revised Real Estate Contract System Clause for Asbestos (September 1996)

The revised Real Estate Contract System (RECS) clause appears as A.17, Hazardous/Toxic Conditions Clause, in the Postal Service's General Conditions to Postal Service Lease document.

> "Asbestos containing building material" (ACBM) means any material containing more than 1 percent asbestos as determined by using the method specified in 40 CFR Part 763, Subpart E, Appendix E. "Friable asbestos material" means any ACBM that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Sites cannot have any contaminated soil or water above applicable federal, state, or local action levels or undisclosed underground storage tanks.
>
> The Lessor agrees to identify and disclose the presence, location, and quantity of all ACBM or presumed asbestos containing material (PACM) which includes all thermal system insulation, sprayed on and troweled on surfacing materials, and asphalt and vinyl flooring material unless such material has been tested to not be ACBM. Unless due to the act or negligence of the Postal Service, if contaminated soil, water, underground storage tanks, or piping or friable asbestos or any other hazardous/toxic materials or substances as defined by applicable Local, State, or Federal law is subsequently identified on the premises, the Lessor agrees to remove such materials or substances upon notification by the U.S. Postal Service at Lessor's sole cost in accordance with EPA and/or State guidelines. If the Lessor fails to remove the asbestos or hazardous/toxic materials or substances, the Postal Service has the right to accomplish the work and deduct the cost plus administrative costs from future rent payments or recover these costs from Lessor by other means, or may, at its sole option, cancel this Lease. In addition, the Postal Service may proportionally abate the rent for any period the premises, or any part thereof, are

determined by the Postal Service to have been rendered unavailable to it by reason of such condition.

The remainder of this clause applies if this lease is for premises not previously occupied by the Postal Service.

By execution of this Lease the Lessor certifies:

1. The property and improvements are free of all contamination from petroleum products or any hazardous/toxic or unhealthy materials or substances including friable asbestos, as defined by applicable State or Federal law.

2. There are no undisclosed underground storage tanks or associated piping on the property.

The Lessor hereby indemnifies the Postal Service and its officers, agents, representatives, and employees from all claims, loss, damage, actions, causes of action, expense, and/or liability resulting from, brought for, or on account of any violation of this clause.

5 Building Surveys

5-1 Survey Requirements

All postal-owned and -leased buildings must be surveyed for asbestos except for buildings built after 1990 that have been certified as not containing ACBM, in writing, by the architect-engineer (A-E), an accredited asbestos inspector, the construction contractor, or the owner/lessor in the case of new construction leases (NCLs). [June 2000] Examples of asbestos-free certification letters for existing buildings and for new work are found in the *Master Specification,* section 01780, Closeout Submittals. The *Master Specification* can be found on the Postal Service Intranet on the FTP server at *ftp://56.64.59.87.*

Policy

Except for those built after 1990, all postal-owned and -leased buildings must be surveyed for asbestos.

Setting priorities for and scheduling surveys are significant elements of the area asbestos control plan. Protocols for asbestos surveys must be in accordance with AHERA; however, the 3-year reinspections required for schools are **not** required for postal facilities. [June 2000] In addition, the Postal Service requires that all accessible (as defined by ASTM) friable and nonfriable surfacing materials, TSI, and miscellaneous materials be sampled to determine the presence or absence of asbestos.

The asbestos program coordinator must review the survey reports for buildings previously surveyed by an accredited inspector for accuracy and compliance with postal policy. If an adequate survey already exists, no further action is necessary. If the existing survey does not meet current postal standards, it must be supplemented with an additional survey; a completely new survey should be undertaken only if no practical alternative exists.

If an asbestos survey has not been completed for buildings built before 1981, certain building materials must be presumed to be ACM. Included in this category are all TSI, sprayed-on and troweled-on materials, and vinyl and asphalt floor coverings. Other materials commonly known to contain asbestos, such as ceiling tiles and interior and exterior wall boards, including joint tapes and muds, may also be of concern if significantly disturbed and should be treated as ACBM.

5-2 Inspection Requirements

Every 6 months after the implementation of the facility's asbestos O&M plan, the FAC must complete a visual inspection of all facility areas that contain ACBM or PACM. During the inspection, the FAC must document the condition of the ACBM and PACM in accordance with the Postal Service modifications to the AHERA hazard ranking and abatement priority classifications (see 5-8.4). The FAC must complete

the inspections every 6 months until the facility has removed all ACBM and PACM, or until the facility is transferred to another owner or returned to the lessor.

5-3 EPA Purple Book

The Purple Book, officially entitled *Guidance for Controlling Asbestos-Containing Materials in Buildings,* is reproduced on the Postal Service's internal web site. It includes chapters on the following:

- Background information concerning exposure to asbestos inside buildings.
- How to determine if ACM is present in buildings by planning and conducting an asbestos survey.
- How to establish a special O&M plan; the purpose of the O&M plan; who should participate in the plan; plus special practices for sprayed- and troweled-on surfacing materials, pipe and boiler insulation, and other miscellaneous ACMs.
- How to conduct asbestos control for potential fiber release episodes; proper air monitoring techniques; and considerations for selecting and scheduling abatement projects.
- What the characteristics and recommended work practices are for different abatement methods.
- How to conduct abatement projects, select the right contractor, and ensure the abatement is completed properly.

Note

The Purple Book and Pink Book can be found on the Postal Service's internal web site at http://blue.usps.gov/environmental.

5-4 EPA Pink Book

The Pink Book, officially entitled *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials,* is reproduced on the Postal Service's internal web site. It includes a simplified plan for sampling friable surfacing materials. Using the sampling plan described in this book helps minimize errors in detecting asbestos. The plan accounts for the following two important sources of error:

- Asbestos that is unevenly distributed throughout the material (one or more samples could miss asbestos even when it is present).
- Incorrect laboratory analysis.

The following steps outline the sampling and analysis procedure:

- Identify all friable surfacing materials and group them into homogeneous sampling areas. A homogeneous sampling area contains material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type, or formulation, of material.

- Prepare diagrams of each sampling area so that sampling locations can be selected and documented.
- Divide the sampling area into nine equally sized subareas so that samples that are representative of the entire sampling area can be collected.
- Determine the number of samples. Nine samples (one per subarea) are recommended. When cost or other constraints limit the number of samples that can be collected, a minimum number of samples based on the size of the sampling area is specified.
- Determine the sampling locations. The locations are chosen to obtain a representative sample and to avoid biases that could be introduced by personal judgment alone.
- Collect samples. Follow guidelines designed to minimize fiber release.
- Follow a quality assurance program. Collect extra samples to ensure reliability of the laboratory analyses.
- Send the samples to a qualified laboratory for analysis by polarized light microscopy.
- Interpret the results. If any sample has more than 1 percent asbestos, then either assume that the entire sampling area contains asbestos or collect additional samples to determine more precisely the extent of ACM.
- If asbestos is present, initiate a special O&M program to clean up any asbestos fibers previously released and to prevent future release. Refer to the Purple Book for more information.

5-5 Air Sampling Protocols

5-5.1 General

MI EL-810-98-1 requires that all postal-owned and -leased buildings be inspected in accordance with AHERA regulations. If ACBM is discovered, it is to be assessed in accordance with the postal-revised AHERA assessment protocols. Implicit in this requirement is the need to design response actions appropriate to the condition of the material.

Assessments and appropriate response actions are described in detail in section 5-8 of this guide and range from no action or management-in-place to isolation or evacuation of areas with significantly damaged friable materials until they are remediated. The mere presence of ACBM does not mandate air monitoring. **Air monitoring is usually necessary only if ACBM is discovered in poor condition or the management planner assessing the materials believes it is**

justified. If necessary, monitoring to assess the efficacy of the O&M program or the potential for fiber release should follow the EPA guidance, and monitoring to determine employee exposures and risk must follow the OSHA Regulated Method (ORM). The ORM is also appropriate for evaluating fiber release episodes and exposures in areas with damaged friable materials and for monitoring outside of abatement projects.

5-5.2 Air Monitoring

Air monitoring for asbestos fibers has two purposes: to determine potential employee exposures and to assess the condition of ACBM. The presence of ACBM does not always require air monitoring, and the need for monitoring is best determined by competent persons (see Chapter 4 in EPA Publication 560/5-85-024). Monitoring must be accomplished by trained, competent persons, e.g., certified industrial hygienists (CIHs), and samples must be analyzed by accredited laboratories.

Employee exposure air monitoring is governed by the OSHA regulation. ACBM assessment monitoring should follow strategies and methods outlined in EPA Publication 560/5-85-024 or 40 CFR Part 763 (AHERA), as determined by competent persons.

Air monitoring to determine potential employee exposures must be conducted in accordance with 29 CFR 1910.1001 when:

- ACBM is disturbed (fiber release episodes).
- ACBM is discovered in friable condition.
- Employees or their representatives request an exposure determination.
- Abatement projects or repairs are conducted (see section 7-9).

Air monitoring to assess the condition of ACBM should be accomplished when:

- ACBM is discovered in poor condition.
- Competent persons determine that monitoring is necessary to complement the assessment process.

What does OSHA say about air monitoring? OSHA regulations on asbestos (29 CFR 1910.1001) state that :

- The employer must ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 f/cc of air as an 8-hour TWA (29 CFR 1910.1001(c)).

- Each employer must perform *initial* monitoring of employees who are, or may be reasonably expected to be, exposed to airborne concentrations at or above the PEL or EL (29 CFR 1910.1001(d)(2)(i)).
- Where the employer has relied on objective data that asbestos cannot be released in airborne concentrations at or above the PEL or EL under the expected conditions of processing, use, or handling, then no initial monitoring is required (29 CFR 1910.1001(d)(2)(iii)).

Because EPA AHERA air monitoring assesses the relative success of abatement projects and is not health based, it is not appropriate to use these methods to determine the exposures of or risk to individual employees or to dictate response actions. However, questions have been raised when AHERA or other EPA recommended assessment air monitoring techniques report results above background levels of asbestos in the ambient air. The AHERA transmission electron microscopy (TEM) method measures asbestos structures in the air; the ORM measures fibers in the air only of a certain size and shape. The measured structures may or may not have health significance, based on morphology and whether EPA thought they were peculiar to asbestos remnants from abatement projects.

Definitions

The TEM method measures asbestos structures in the air.

The ORM measures fibers in the air only of a certain size and shape.

When using the TEM method for clearance purposes, results from inside and outside the abatement area are compared or, if the levels observed on the filter are considered below background, no further evaluation is required. This is when the commonly used number of 70 structures per square millimeter is reported. EPA scientists consider 70 structures per square millimeter the expected, nonairborne background filter contamination. This number has no relation to health risk assessments. It should not be used as a health standard or used alone to trigger response actions. If **any** air monitoring is conducted, a CIH should be consulted to determine if employee health exposure monitoring or other immediate actions are needed to protect employees (Policy Memorandum, May 11, 1995 - *Assessing Asbestos-Containing Materials and Air Monitoring*).

When the ORM method is used to evaluate employee exposures, the following minimum guidelines must be used to determine if response actions are necessary:

- If the 8-hour TWA exceeds 0.05 f/cc or if the 30-minute EL exceeds 0.5 f/cc, take immediate steps to clean, repair, or remove ACBM or modify work practices (e.g., floor care). Conduct AHERA monitoring for clearance following the response action.

- If the 8-hour TWA exceeds 0.01 f/cc or if the 30-minute EL exceeds 0.1 f/cc, restrict employee access and clean, repair, or remove the ACBM as soon as possible. Conduct postresponse clearance monitoring.

Use the TEM method to confirm phase contrast microscopy (PCM) fiber levels above 0.01 f/cc to ensure that asbestos fibers, not cellulose or other fibers, are being counted. Depending on their individual experience and expertise, the microscopists can in some cases use light microscopy to identify fibers as asbestos.

These response guidelines implement protective measures for employees well before airborne asbestos levels approach OSHA standards. However, good O&M practices should keep airborne fiber concentrations much lower and are considered the best protection for all building occupants. Regardless of air monitoring results, ACBM must be maintained in good condition, and any ACBM debris should be cleaned up immediately.

EPA continues to advise that the routine use of air monitoring has limited use in assessing ACBM, and little or no utility in assessing health risk. In addition, the results of AHERA air sampling are subject to misinterpretation by managers and employees and can result in unnecessary anxiety and response actions.

5-6 Asbestos Sample Analytical Procedures

Both the EPA and OSHA require specific analytical procedures for the analysis of asbestos. This section discusses those applicable to Postal Service facilities. For a discussion of sampling and indirect analysis of dust that may contain asbestos, see 3-5.2.

5-6.1 NESHAP

NESHAP Subpart M, National Emission Standard for Asbestos, Section 61.141, Definitions, provides the following information:

- *Category I nonfriable ACM* means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM).
- *Category II nonfriable ACM* means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, that,

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

- *Friable asbestos material* means any material containing more than 1 percent asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by PLM, verify the asbestos content by point counting using PLM.

Based on these three definitions, NESHAP intends that all bulk samples of ACM containing less than 10 percent asbestos by area will undergo the PLM point-counting analysis. No other acceptable methods are discussed in this regulation. However, when the PLM technique is compromised by samples coming from a nonhomogeneous substrate, scanning electron microscopy (SEM) or TEM may be used to provide an alternative analysis. For example, the State of New York requires the use of TEM analysis whenever PLM results are negative for asbestos-containing floor tiles and roofing material. [June 2000] Samples of flooring materials may also contain organic chemicals which will interfere with sample analysis by PLM and/or thin asbestos fibers (less than 0.25 μm in cross section) that cannot be identified by PLM. The PLM method will result in false negative reports when these conditions are encountered. The TEM analysis method should be used for all suspect vinyl flooring material.

[June 2000] The sampling of wall materials presents a special case. When walls containing drywall, drywall mud, and tape do not have defined strata, the sample is treated as a homogeneous sample, and the asbestos content is composited over the entire wall material. When the walls have defined strata, each distinct wall stratum is sampled and analyzed for asbestos content using the TEM method. All bulk samples taken for an AHERA survey should follow these analytical requirements when layered materials are encountered.

5-6.2 General Industry and Construction Standards

Under both of these standards, the employer or owner can use the following methods to demonstrate that PACM does not contain asbestos:

- A completed inspection conducted pursuant to the requirements of AHERA (40 CFR 763, Subpart E) that demonstrates that no asbestos is present in the material.
- A test of the material that demonstrates that no asbestos is present. The language in these sections appears to allow the use of either the PLM or the TEM method.

Appendix A of both standards contains the mandatory sampling and analytical procedure for air monitoring. The mandatory method is PCM augmented with a TEM backup procedure.

A certified analytical laboratory was contacted in May, 1996, to obtain information on the average cost for the asbestos analytical procedures. The average costs for the procedures are as follows:

- The PLM procedure costs $14 to $15 per sample with a 5- to 10-day turnaround, $17 per sample for a 48-hour turnaround, and $22 per sample for a turnaround of less than 24 hours.
- The TEM that complements the PLM procedure is $50 to $60 per sample.
- The PCM procedure averages $40 to $50 per sample. If gravimetric preparation is required, the additional charge is $25 per sample.
- The PCM coupled with TEM analysis costs about $90 per sample.

5-7 Air Monitoring and Physical Assessment Protocol (AHERA and OSHA)

AHERA specifies that asbestos inspectors must conduct a physical assessment of all TSI and friable suspect materials. Monitoring the air to assess hazards from airborne contaminants is not an accurate gauge. If bulk sampling has been completed, inspectors need to assess only known and assumed TSI and friable known and assumed ACBM.

Physical assessment consists of assessing the condition of suspect materials and the potential for future disturbances. AHERA also requires that results of the physical assessment be interpreted in terms of the hazard created by the ACBM. The management planner conducts this hazard assessment (see section 5-8).

5-7.1 Air Monitoring Methods

The traditional approach to assessing hazards from airborne contaminants is to measure the concentration of contaminants in the air. Many industrial workplaces are monitored continually for a variety of contaminants, but any air sampling process only provides an indication of airborne fiber content at that time and in that location.

Although OSHA's required method for measuring asbestos in workplace settings where elevated levels are expected is relatively inexpensive and thus practical for routine use, it is not an accurate gauge of asbestos levels in other settings.

The EPA does not recommend and the AHERA rule does not mention air monitoring for assessment purposes. Instead, the condition and location of ACBM should be used to judge the likelihood of fiber release and subsequent exposure of building workers. However, spot

tests for high levels of airborne asbestos may be helpful. Taking into consideration both federal regulations and state and local laws, discuss spot testing with the inspector and management planner.

5-7.2 Physical Assessment Methods

Various methods have been proposed and used to assess the tendency of ACM found in a particular location to release fibers and thus to increase the potential for exposure of workers and building occupants. Some methods employ numerical scoring schemes, often referred to as “algorithms.” Numerical schemes automatically produce scores (e.g., 0–100) that define the degree of hazard or potential for exposure and the urgency for response action. Although these scores are an advantage, EPA has studied the use of algorithms and concluded that they may not reliably estimate hazard or exposure potential. Rather, they tend to give the assessment process a false sense of precision.

What does the EPA Purple Book say about rating systems? A simple “present” or “absent,” “high” or “low” rating should be used for each factor. More elaborate rating schemes have been tried. For example, raters have assigned numerical scores and used mathematical formulas to combine the scores into indices to reflect potential exposure. These “exposure indices**”** have met with mixed success. In tests, several indices showed wide variation from one rater to the next and often did not indicate current, elevated airborne asbestos levels. Assigning numerical ratings to assessment factors and combining them into a single score cannot be recommended. The factors are most useful when they are scored with a simple, nonnumerical rating system. (See Section 4.1.1 of the Purple Book.)

Various nonnumerical or quasi-numerical approaches have been developed for conducting physical assessments of ACM. Most employ the same factors used in numerical scoring schemes. However, in these approaches, evaluating each factor leads to a categorical outcome (present or absent; high, medium, or low) instead of a numerical score.

Various approaches differ primarily in the format and display of assessment information for subsequent decision-making. The AHERA rule does not specify any particular type of assessment; therefore, the inspector can use any assessment method as long as he or she places the assessed material in the correct category of damage and potential for damage, the management planner recommends the response action(s) allowed by AHERA, and the Postal Service representative selects these response actions.

A complete inspection must include information on the material condition and disturbance potential of the ACM. An example of a good

assessment protocol is included below. Note that a numerical score is not assigned. Instead, the adjectives “significantly damaged,” “damaged,” or “good condition” are assigned to the materials in question.

Surfacing and Miscellaneous Material Ranking

Significantly damaged material has one or more of the following characteristics:

- Surface crumbling or blistering over at least one-tenth of the surface if damage is evenly distributed (one-quarter if damage is localized).
- One-tenth (one-quarter, if localized) of material hanging from the surface, deteriorated, or showing adhesive failure.
- Water stains, gouges, or mars over at least one-tenth of the surface if the damage is evenly distributed (one-quarter if damage is localized).

The inspector can use the accumulation of powder, dust, or debris similar in appearance to suspect material on surfaces beneath the material as confirmatory evidence.

Damaged material has surface crumbling or is blistered, water-stained, gouged, marred, or otherwise abraded over less than one-tenth of the surface if damage is evenly distributed (one-quarter if the damage is localized).

The inspector can use the accumulation of powder, dust, or debris similar in appearance to the suspect material on surfaces beneath the material as confirmatory evidence.

Good condition describes material that has no visible damage or deterioration, or that shows only very limited damage or deterioration.

Significantly damaged friable surfacing is described in AHERA as miscellaneous friable surfacing ACM in a functional space where damage is extensive and severe. The preamble to the AHERA rule refers to 10 and 25 percent damage as a means of distinguishing “significantly damaged” from “damaged” ACBM.

Damaged friable surfacing is described in AHERA as miscellaneous friable surfacing ACM that has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, that has delaminated such that the bond to the substrate (adhesion) is inadequate or that for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of

ACM from the substrate; flaking, blistering, or crumbling of ACM surface; water damage; and significant or repeated water stains, scrapes, gouges, mars, or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

Thermal System Insulation Ranking

Significantly damaged has one or more of the following characteristics:

- Missing jackets on at least one-tenth of piping or equipment.
- Crushed or heavily gouged or punctured insulation on at least one-tenth of pipe runs and risers, boilers, tanks, ducts, etc., if damage is evenly distributed (one-quarter if damage is localized).

The inspector can use the accumulation of powder, dust, or debris similar in appearance to the suspect material on surfaces beneath the pipes, boilers, tanks, or ducts as confirmatory evidence.

Damaged material has one or more of the following characteristics:

- A few water stains or less than one-tenth of insulation with missing jackets.
- Crushed insulation or water stains, gouges, punctures, or mars on as much as one-tenth of the insulation if damage is evenly distributed (or as much as one-quarter if damage is localized).

The inspector can use the accumulation of powder, dust, or debris similar in appearance to the suspect material on surfaces beneath pipes, boilers, tanks, or ducts as confirmatory evidence.

Good condition describes material that has no visible damage or deterioration, or that shows only very limited damage or deterioration.

How does AHERA define damaged insulation? It is *damaged* or *significantly damaged* thermal insulation on pipes, boilers, tanks, ducts, and other thermal system insulation equipment on which the insulation has lost its structural integrity or its covering, in whole or in part, or is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges, or other signs of physical injury to ACM; occasional water damage on the protective coverings and jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.

Disturbance Potential Ranking

When assessing "disturbance potential," the inspector must consider the potential for contact, the influence of vibration, and the potential for air erosion. The following criteria are used to rank disturbance potential:

- Potential for contact with the material:
  - High — Service workers work in the vicinity of the material more than once per week, or materials are in public areas (e.g., hallway, corridor, auditorium) and accessible to building occupants.
  - Moderate — Service workers work in the vicinity of the material once per month to once per week, or materials are in rooms or offices accessible to building occupants.
  - Low — Service workers work in the vicinity of the material less than once per month, or materials are visible but not within reach of building occupants.
- Influence of vibration:
  - High — Loud motors or engines are present (some fan rooms), or intrusive noises or easily sensed vibrations are present (major airports or highways).
  - Moderate — Motors or engines are present but not obtrusive (ducts are vibrating but no fan is in the area), or occasional loud sounds occur (a music room).
  - Low-to-none — None of the above.
- Potential for air erosion:
  - High — High velocity air (elevator shaft, fan room) occurs in area.
  - Moderate — Noticeable movement of air (air shaft, ventilator air stream) occurs in area.
  - Low-to-none — None of the above.

Based on potential disturbance factors of contact, vibration, and air erosion, the ACM is classified under AHERA.

How does AHERA classify disturbance potential?

- *Potential for damage* — Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities. Therefore, a reasonable likelihood exists that the material or covering will become damaged, deteriorated, or delaminated because of such factors as changes in building

use, changes in O&M practices, changes in occupancy, or recurrent damage.

- *Potential for significant damage* — In addition to the criteria listed for damage, the material is subject to major or continuing disturbance because of factors that include, but are not limited to, accessibility or, under certain circumstances, vibration or air erosion.

5-7.3 Spatial Units

Functional Spaces

Definition

The basic unit for collecting assessment data is the "functional space." *Functional spaces* are spatially distinct units within a building.

According to the AHERA rule, the basic unit for collecting assessment data is the "functional space." *Functional spaces* are spatially distinct units within a building; sometimes they contain different populations of building occupants. For example, an office is a functional space because it is enclosed and separate from the rest of the building and contains one or more groups of employees. Similarly, a boiler room is a functional space containing custodial and maintenance workers. A corridor and an auditorium are other examples; in these cases, the relevant population is customers and staff or office workers. Although they do not normally contain populations, pipe chases, air shafts, and plenums are also functional spaces. Under AHERA, the inspector has considerable latitude in determining a functional space. For example, if the inspector finds it useful in identifying important distinctions in the conditions and disturbance potential of suspect material, he or she can divide long corridors into separate spaces.

Homogeneous Areas

Functional spaces are used for *assessing* suspect material, and homogeneous areas are used for *sampling* suspect material. A homogeneous sampling area may include several functional spaces. For example, an entire floor comprising many offices and a corridor can be a single homogeneous area for bulk sampling; the same suspect materials might have been sprayed on all ceilings or on beams above suspended ceilings or wrapped around pipes in every room throughout the floor. The inspector selects a few random or convenient sites for collecting bulk samples throughout the floor and also assesses the material in each individual functional space. Therefore, the number of separate assessments will probably exceed the number of sampling areas, at least for surfacing material. Functional spaces with different types of suspect materials may present the opposite situation. A boiler room, for example, may have a variety of TSI in addition to surfacing material. The inspector would use several sampling areas in this single functional space.

When a single functional space includes several different types of homogeneous areas, physical assessment of the area may be a composite assessment. Surfacing materials should be assessed separately from TSI, but the different types of TSI (pipe wrap, elbow insulation, boiler block) in one space should be assessed as a single unit.

The inspector should assess functional spaces that contain suspect materials under AHERA. However, large buildings may contain many functional units with the same type of suspect materials in the same condition and with the same potential for disturbance (hotel rooms, apartments, classrooms). In this case, the inspector can group together all similar units, identify them as a single functional space, and use a representative sample of the repeating units for physical assessment. If the inspector uses a sampling approach, a sampling rate of at least 20 percent is recommended, such as one of every five separate rooms in the collective functional space. Then the assessments should be averaged for each sample room (all of which should be roughly the same) to calculate the overall assessment of suspect material in the collective functional space.

The inspector should group together only rooms or spaces with materials in the same condition and with the same potential for disturbance. If otherwise identical rooms do not meet these conditions, they should not be included in the same functional space. For example, if 10 offices in a large Postal Service facility all have acoustical plaster ceilings but two have been damaged, two separate functional spaces should be identified — one for the eight rooms in good condition and one for the two with damaged plaster. Likewise, offices should not be grouped together with spaces with a different potential for disturbance (corridors or rest rooms), even if suspect material is the same and in the same condition.

5-7.4 AHERA Requirements for Recordkeeping

The results of physical assessments must be recorded as specified in the AHERA rule. All homogenous material assessed in each functional space is placed in one of the seven categories. Current conditions are the primary considerations when making category assignments. Damage and significant damage categories are aggregated for TSI and friable miscellaneous materials.

The inspector must include all types and categories of ACBM — known, assumed, friable, nonfriable, assessed, or not assessed. For material that does not need to be assessed (nonfriable surfacing and miscellaneous ACBM), he or she must provide a brief description of its general condition. For all suspect materials, the inspector must delineate homogeneous sampling areas on floor plans or approximately-to-scale drawings. These materials are either sampled

and tested for asbestos or assumed to contain asbestos. Finally, the inspector must identify the cause of damage to any ACBM.

See Chapter 10 for postal-specific recordkeeping requirements.

5-7.5 Inspection Report

According to AHERA, the inspector must include the following key items of information in the inspection report:

- A list of identified homogeneous areas classified by type of materials (surfacing materials, TSI, or miscellaneous materials).
- Location (through blueprint, diagram, or written description) of homogeneous sampling areas and individual sampling locations, locations of friable suspect materials assumed to be ACBM, and locations of nonfriable suspect materials assumed to be ACBMs. Dates of sampling should also be included.
- Approximate square or linear footage of any homogeneous or sampling area where material was sampled for ACM.
- A dated copy of the laboratory analyses for each bulk sample and designation of each homogeneous area as ACM or non-ACM.
- The physical assessment of ACBM and suspect ACBM and placement into one of the following categories:
  - Damaged or significantly damaged TSI ACBM.
  - Damaged friable surfacing ACBM.
  - Significantly damaged friable surfacing ACBM.
  - Damaged or significantly damaged friable miscellaneous ACBM.
  - ACBM with potential for damage.
  - ACBM with potential for significant damage.
  - Any remaining friable ACBM or friable suspect ACBM.
- Name and signature of each accredited inspector collecting samples, state of accreditation, and, if applicable, his or her accreditation number.

5-8 Hazard Assessment and Response Evaluation

5-8.1 Management Planner's Qualifications and Liabilities

The AHERA final rule suggests minimum qualifications for management planners. In addition, some states have increased the suggested minimum requirements and added the qualifications and experience they deem appropriate.

The management planner should be a registered architect, engineer, or CIH. Any individual with equivalent experience and qualifications can also be accredited as a management planner. Management planners may face liability and litigation because of the critical role they play in the controlling of asbestos, and therefore should be fully accredited.

To become accredited, persons must take the 3-day asbestos inspector course plus an additional 2-day approved management planner course. For annual reaccreditation, management planners must attend an inspector refresher course of one-half day in length plus an additional half-day session on management planning. Each state can require persons to pass reaccreditation examinations at specific intervals.

Note

The AECC should be contacted for assistance in finding an accredited management planner, who should follow guidance in MI EL-810-98-1.

The management planner designs an O&M plan if the existence and location of ACBM is confirmed. An O&M plan is implemented as soon as ACM is identified and must remain in effect until all ACM has been removed from the facility.

An asbestos inspection, which is the keystone to the management planner's activities, involves the following:

- An investigation of records for the specification of ACBM.
- An inspection of the building for suspect materials.
- Sampling and analyzing suspect materials.
- Assessing condition and location of ACM and other characteristics of the building.

After reviewing the results of the inspection and physical assessment report, the management planner systematically determines the hazard posed by ACMs and evaluates and selects control response options, which AHERA has identified in five major response actions:

- O&M activities — sometimes referred to as preventative measures in AHERA.
- Repair.
- Encapsulation.

- Enclosure.
- Removal.

The management planner should base the selection of a response action upon a number of evaluating factors, including hazard assessment, initial and long-term costs, and useful life of the facility. The single most important factor in determining a response action must be the health and safety of the building occupants. Once this factor has been gauged, the management planner should incorporate all other factors into the final decision. In so doing, the planner will find it advantageous to consult with such other professionals as architects or engineers.

Objective

The single most important factor in determining a response action must be the health and safety of the building occupants.

The management planning team determines which response action is appropriate for all ACBM identified in the building. If the recommended response action is an O&M plan, the management planner must develop and document it and submit it to the postmaster or facility manager and FAC.

5-8.2 Hazard Assessment

Assessing the hazard potential of ACBM is a key activity of the management planner. Working with the physical assessment of suspect materials (condition and potential for disturbance) conducted by the asbestos inspector, the management planner and management planning team interpret and evaluate the data and set abatement priorities and ranking areas for response actions. The AHERA rule describes the interpretation and evaluation process as “hazard assessment.”

Note

Assessing the hazard potential of ACBM is a key activity of the management planner.

What information does the management planner need?

- Field data on building characteristics, homogeneous sampling areas, areas where physical assessments were performed (functional areas), and suspect materials assumed to be ACBM but not sampled.
- Results of laboratory analyses of bulk samples for asbestos.
- Physical assessment data on suspect ACBM.

Field Data

The management planner first reviews the inspector’s field data to become familiar with the building and the suspect, assumed, and confirmed ACBM and check for obvious errors in the characterization of the building and suspect ACBM. The management planner must review all of the inspector’s data sheets (floor plans or sketches, maps

or sketches of homogeneous areas, and assumed ACBM location forms) during a building tour. The management planning team should also verify that an accredited inspector performed the inspection.

Laboratory Analyses

The management planning team should compare bulk sample data forms with laboratory reports to verify which samples and homogeneous areas contain asbestos. During the building walk-through, the team should check the accuracy of the inspector's summary describing the type and location of ACBM, type of asbestos, and extent of each homogeneous area.

Physical Assessment Data

Finally, the management planning team should examine the inspector's reports on the physical assessment of friable ACBM and make spot checks of friable ACBM during the building walk-through to verify the assessments. The team should note any discrepancies between the inspector's and management planner's assessments. Any significant difference (a change in damage or potential for damage category) should trigger a complete reassessment of all functional areas by the management planning team.

The asbestos O&M plan is the end result of a complex process of interpretation and evaluation. All actions are based on the current condition of ACM and the potential for future disturbance or damage.

To help apply the AHERA damage categories, inspectors and planners use a rough quantitative measure — **the extent of damage**. The distinction between localized and distributed damage reflects one of the purposes of assessment — developing recommendations for abatement. Localized damage or deterioration should be easier to repair.

The potential for future disturbance is related to the following:

- The frequency with which service workers need to work near, or building occupants are in the vicinity of, the material.
- The material's location with respect to sources of vibration.
- The potential for air erosion.

Inspectors and management planners evaluate factors differently depending on whether service workers or other building occupants are the ones likely to come into contact with the material. They then use the results of evaluating the factors to classify the material with respect to its potential for disturbance into the following categories:

- Potential for significant damage.
- Potential for damage.
- Low potential.

If they determine that any one of the three factors (frequency of potential contact, influence of vibration, and potential for air erosion) is "high," then the level of potential disturbance is "potential for significant damage," as defined in AHERA, regardless of ratings for the other two criteria. Similarly, if none of the three factors is assessed as "high" but at least one has a rating of "moderate," then the level of potential disturbance is designated "potential for damage" as defined in AHERA. If all three criteria are rated "low," then the overall rating is "low potential." AHERA does not refer specifically to materials in good condition or with a low potential for disturbance.

Other Data Important for Estimating Exposure Potential

Once fibers are released from ACBM, the degree to which they pose a danger to building workers and occupants depends on their concentration in the air at locations where people are present. Understanding the building's HVAC system is important to comprehending the transport of released fibers. Anytime fibers are released into the ventilation air stream, they are transported to occupied spaces. Thus, inspectors should note whether or not the ACBM is located in an air plenum. Location in a supply air plenum is more significant than location in a return plenum since the distance of transport to the occupied space is shorter and dilution by makeup air is less significant.

The total amount of suspect materials in damaged or deteriorated condition may also affect the level of asbestos in the air. The amount of materials can be calculated from the estimated percent of damage and the estimated amount of materials present.

5-8.3 Hazard Assessment Process

Although the inspector will have classified friable ACBM and TSI, AHERA allows considerable discretion in selecting response actions. To help choose among the allowed ACBM control actions for each category, the management planner conducts a hazard assessment process. The hazard assessment combines level of potential disturbance with current condition of the ACBM to indicate overall hazard potential. Regulations do not mandate a specific hazard assessment process, but the process should be logical and well-documented. The hazard ranking categories are described in Exhibit 5-8.3a. The decision tree shown in Exhibit 5-8.3b illustrates the hazard assessment process.

Rankings of potential hazard range from 7 — most hazardous — to 0 — least hazardous. The highest rank, 7, is reserved for ACBM that is **significantly damaged**. AHERA defines *significantly damaged ACBM* as so extensively damaged or deteriorated that it requires immediate corrective action.

Hazard ranks are a combination of the condition of ACBM and the disturbance potential of ACBM. For example, rank 6 is damaged ACBM with a potential for significant damage.

Exhibit 5-8.3a, Hazard Ranking Categories

Hazard Rank	ACBM Condition	ACBM Disturbance Potential
7	Significantly Damaged	Any
6	Damaged	Potential for significant damage
5	Damaged	Potential for damage
4	Damaged	Low
3	Good	Potential for significant damage
2	Good	Potential for damage
1	Good	Low
0	Non-asbestos Containing Material	Inventory for future use

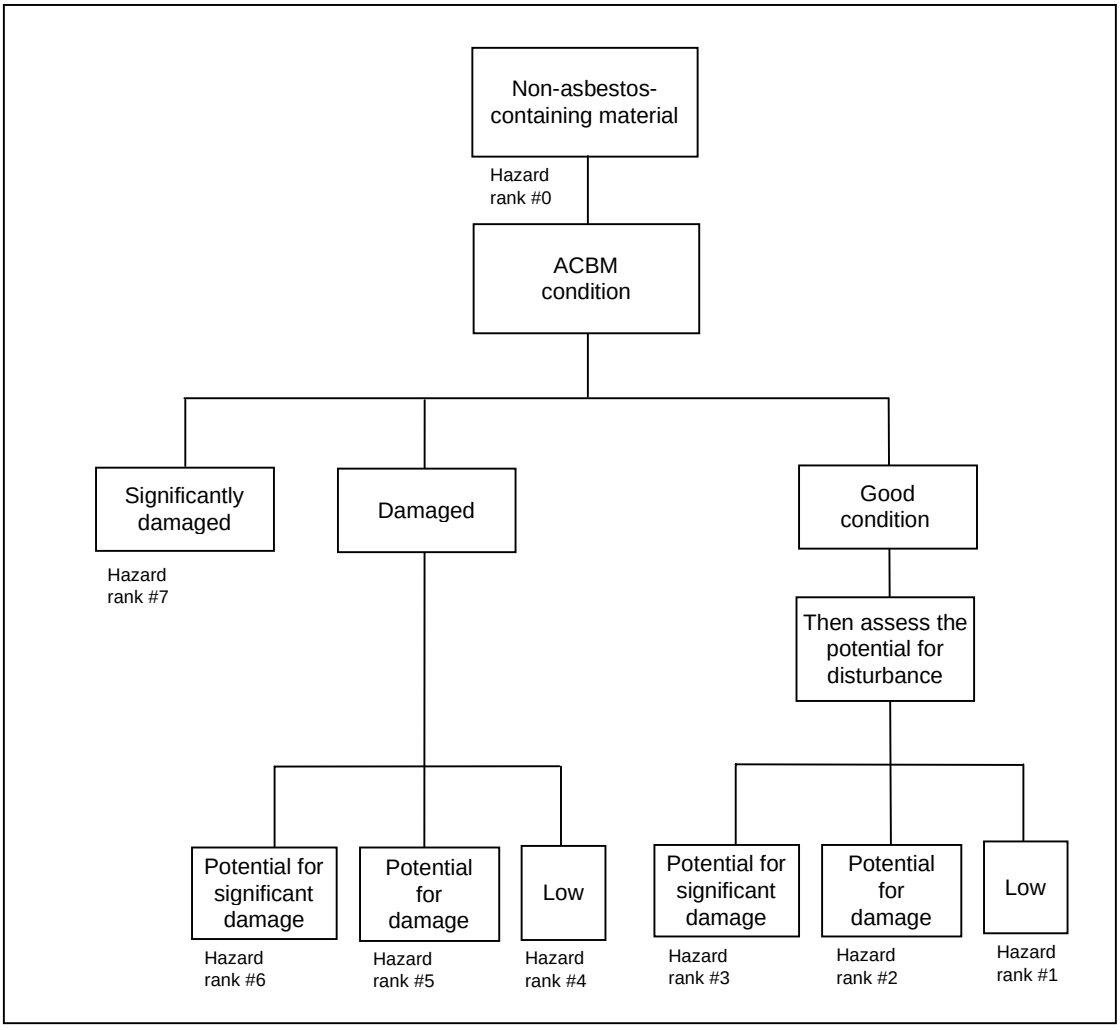
5-8.4 Evaluating Response Actions

AHERA refers to actions taken by local education authorities (LEAs) in buildings with ACM as “response actions” or “control options.” Since the Postal Service is subject to selected provisions of AHERA, these definitions may also apply.

What are the response actions defined by AHERA?

- O&M Plan — a program of training, cleaning, work practices, and periodic surveillance to maintain friable ACM in good condition; ensure cleanup of asbestos fibers previously released; and prevent further release by minimizing and controlling friable ACM disturbance.
- Repair — returning damaged ACM to an undamaged condition or to an intact state through limited replacement and patching.

Exhibit 5-8.3b, Hazard Assessment Method



- Encapsulation — treating ACM with a liquid that, after proper application, surrounds or embeds asbestos fibers in an adhesive matrix to prevent fiber release.
- Enclosure — an airtight barrier installed between friable asbestos and the building environment.
- Removal — stripping ACM from its substrate. Asbestos material is separated from the underlying surface, collected, and placed in containers for disposal at an approved site.

These actions plus their advantages and disadvantages are detailed in Chapter 7.

Response actions based on hazard rank are shown in Exhibit 5-8.4a. Since hazard ranks are combinations of AHERA categories, indicated response actions are also combinations. A hazard rank of 7 receives the highest priority for abatement. Immediate steps should be taken to

Exhibit 5-8.4a, Response Actions Based on Hazard Rank

Hazard Rank	Abatement Priority	Postal Service Categories	Postal Service Response Actions
7	1	Significantly damaged	Evacuate or isolate the area if needed. Remove, enclose, or encapsulate ACBM to contain fibers. Repair of TSI allowed if feasible and safe. O&M plan required.
6	2	Damaged with potential for significant damage	Evacuate or isolate area if needed. Remove, enclose, encapsulate, or repair to correct damage. Take steps to reduce potential for disturbance. O&M plan required.
5	3	Damaged with potential for damage	Remove, enclose, encapsulate, or repair to correct damage. O&M plan required.
4	4	Damaged	Same as hazard rank #5.
3	5	Good condition with potential for significant damage	Evacuate or isolate area if needed. Take steps to reduce potential for disturbance. O&M plan required.
2	6	Good condition with potential for damage	O&M plan required.
1	7	Good condition	O&M plan required but measures need not be as extensive as above.
1	8	Non-friable asbestos	Continue O&M procedures to prevent the material from becoming friable.
1	9	Non-regulated ACM	Continue O&M procedures to prevent the material from becoming friable.
0	10	Non-asbestos-containing material	Inventory for future use.

evacuate people in the functional space or isolate the area with an airtight barrier.

Hazard ranks 1 through 6 cause less immediate concern but require specific response actions. First, a comprehensive O&M program must be instituted. Other actions depend on individual circumstances. AHERA encourages management planners to evaluate the cost and effectiveness of alternative response actions. A hazard rank of 0 indicates that the material contains no asbestos; however, for future use, the material should be inventoried.

A key phrase in the AHERA rule is that the most appropriate response action is “the least burdensome method that protects human health and the environment.” Removal, enclosure, encapsulation, and repair are all potentially allowable actions for each of the hazard categories. The AHERA rule also points out that nothing should be interpreted as precluding removal of ACBM at any time. By NESHAP ruling, all friable ACBM must be removed from buildings before demolition. However, the least burdensome strategy may well involve a combination of O&M procedures, repair, enclosure, or encapsulation (if technically appropriate) with removal deferred until building renovation or demolition.

The fundamental principle of this assessment method is that ACM will release fibers in direct proportion to the degree the material has been disturbed or has deteriorated. ACM in poor condition reflects past and perhaps ongoing disturbance or deterioration and probably indicates past and ongoing release of fibers into the air. The decision tree shown in Exhibit 5-8.4b will help in the determination of the necessary response action.

5-8.5 Assembling an O&M Plan

Each Postal Service facility containing asbestos must develop and retain an O&M plan.

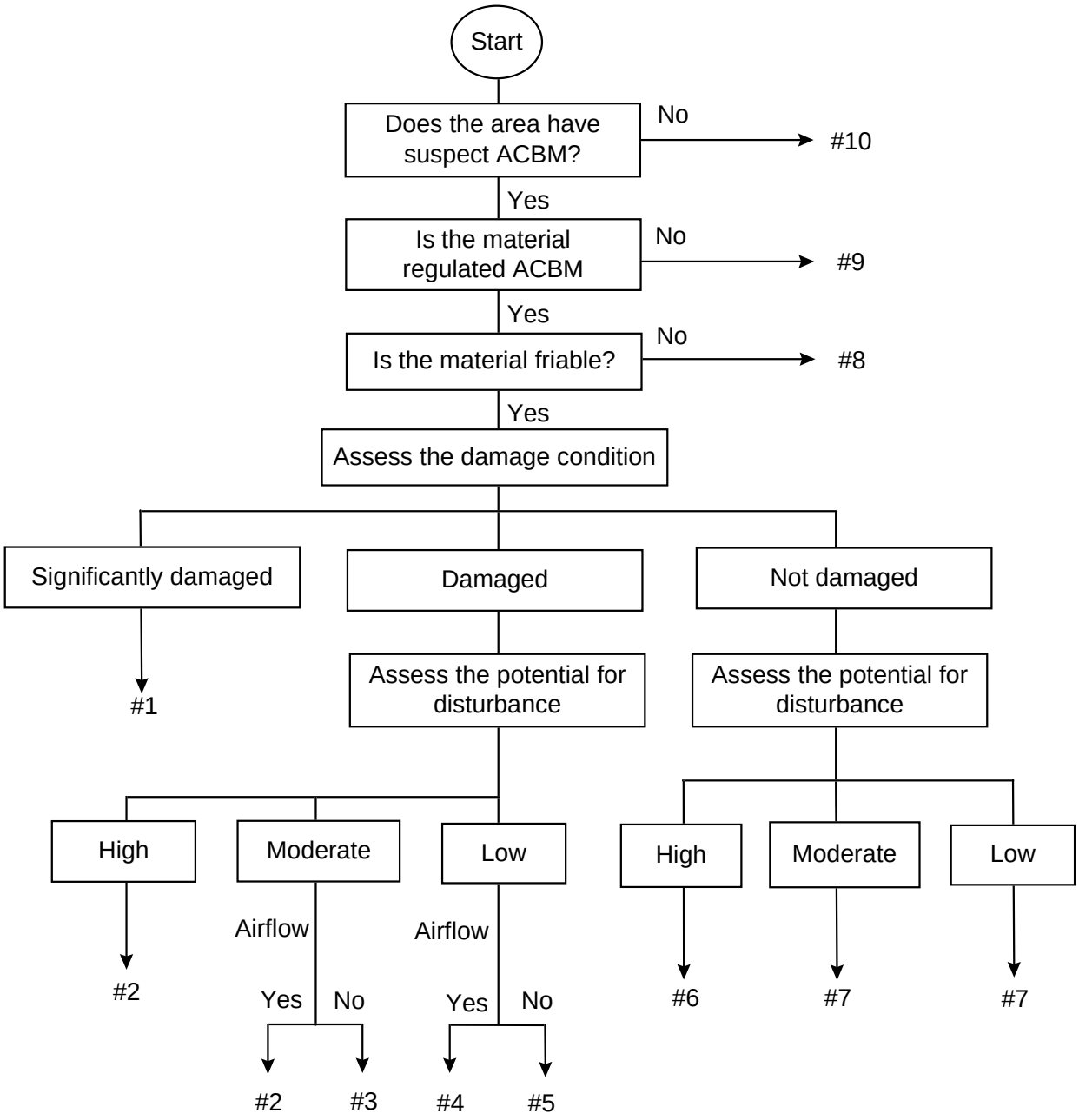
As specified in the AHERA rule, the building inspection report (see 5-7.5) and O&M plans complement each other. Information on the presence or absence of ACM, its condition, and its location in the building becomes the input data for the O&M plan. Remember, the management planner uses the data to do the following:

- Determine the relative degree of hazard posed by various ACM in the building.
- Recommend response actions and the timing of those actions.
- Recommend management practices (O&M plan) for any friable ACBM in the building.

According to AHERA, the O&M plan contains the following key elements:

- General description of the building and summary of the inspection report.
- Descriptions of hazard assessments for all ACBM and all suspect material assumed to be ACBM.
- Recommend response actions and the timing of those actions.

Exhibit 5-8.4b, Homogeneous Area Assessment Decision Tree



Response Action Category:

1. Isolate and restrict access; remove or repair as soon as possible.
2. Repair, remove, or reduce disturbance potential as soon as possible; develop and implement O&M procedures.
3. Repair; continue O&M procedures.
4. Same, lesser priority than #3.
5. Same, lesser priority than #4.
6. Continue O&M procedures to reduce disturbance potential.
7. Same, lesser priority than #6.
8. Since it is non-friable asbestos, continue O&M procedures to prevent it from becoming friable.
9. Since it is non-RACM, continue O&M procedures to prevent it from becoming friable.
10. Since it is non-ACM, inventory it for future use.

- Recommended preventative measures (O&M program) and response actions for any friable ACBM.
- Location where preventative measures and response actions will be implemented.
- Reasons for selecting the measures and actions.
- Schedule for implementation.
- Identification of ACBM that remains after response actions are taken.
- Plan for periodically reinspecting ACBM.
- Program for informing workers and building occupants about ACBM.
- Evaluations of resources needed to implement the O&M plan.

An O&M plan should be used as a working guidance document for asbestos control. It sets forth a framework for short- and long-term Postal Service actions to protect building occupants. The plan must be kept up to date (e.g., response actions, dates, and results of surveillance).

What is the best method for keeping out of trouble? Update the O&M plan, in accordance with 40 CFR 763.94, with the following:

- Descriptions of response actions:
  - Methods.
  - Locations.
  - Reasons.
  - Dates.
  - Contractors involved and their accreditation documentation.
  - Asbestos waste disposal and storage documentation.
- Clearance sampling:
  - Locations.
  - Dates.
  - Laboratory information.
- Training of maintenance and custodial staff:
  - Names and job titles.
  - Dates of completion.

- Locations of training.
- Total hours of training.

- Periodic surveillance:
  - Names of surveyors.
  - Dates.
  - Any changes in material condition.

- Cleaning (initial and additional):
  - Names of personnel involved.
  - Dates of cleaning.
  - Locations cleaned.
  - Methods used to clean these areas.

- O&M activity:
  - Names of personnel involved.
  - Dates of activity.
  - Locations.
  - Description of activities.
  - Asbestos waste disposal and storage information (if applicable).

- Major asbestos activity:
  - Names and certifications of personnel involved.
  - Dates of activity.
  - Locations.
  - Description of activities.
  - Asbestos waste disposal and storage information (if applicable).

- Fiber release episodes:
  - Dates of release episodes.
  - Dates reported to regulatory agency (if applicable).
  - Locations.
  - Methods of repair.
  - Response actions taken.

- Names of personnel involved.
- Asbestos waste disposal and storage information (if applicable).

The O&M plan should elaborate on all aspects of the plan. For example, in selecting a response action, the management planner must justify the particular choice, give a rationale for its priorities, and explain the resources required to implement the response in the plan.

5-8.6 Floor Care

The subject of proper care for asbestos-containing flooring materials continues to cause some confusion because of conflicting data and rulings from various governmental and nongovernmental sources. The EPA and OSHA have both issued several rulings over the past few years that have not been consistent with previous rulings from the same agencies. These ruling changes are a result of newer scientific evidence and test results from various industries that have a keen interest in this matter.

The Postal Service has a major interest in proper floor care. Approximately 80 percent of the 250 million square feet of interior space that the Postal Service controls may contain asbestos. Postal Service policy clearly states that all floor tiles and planking must be assumed to contain asbestos unless an authorized inspection and sampling process by accredited personnel proves otherwise.

Industries such as the various flooring and floor chemical manufacturers and the manufacturers of floor care equipment have lobbied EPA and OSHA for favorable rulings. The OSHA final rule of August 10, 1994, lists the currently accepted work practices and procedures for care of asbestos-containing flooring materials.

The OSHA rule allows wet stripping of asbestos floors by machines at speeds not in excess of 300 revolutions per minute (rpm). Only low-abrasion pads are permitted during this process. Stripping pads are not allowed. The ruling allows for spray buffing and burnishing as long as an adequate amount of finish on the floor provides a barrier to the release of asbestos fibers.

Postal Service policy clearly states that maintenance managers must ensure that employees will not engage in any activity that may disturb ACMs. This prohibition includes floor care activities that might release fibers into the environment. Therefore, the low-speed spray buffing method of floor care is strongly recommended over the high-speed burnishing process. Burnishing has a very strong potential to disturb or release asbestos fibers for reasons beyond the control of the machine operator. Uneven floor surfaces and insufficient thickness of floor finish will cause fiber release in high concentrations.

The following steps should be taken to maintain asbestos-containing flooring safely:

- Wet strip the floor with a 175-rpm scrubber or buffer with a low-abrasion scrubbing pad. Use a commercial stripper product. Remove the liquid from the floor before it dries. In most states, the liquid can be disposed of down a sanitary sewer. Check the local laws to make sure.
- Apply two to four coats of floor sealer to the flooring. Make sure that the stripper, sealer, and wax come from the same company. Follow the manufacturer's instructions.
- Apply two to four coats of finish over the sealer. Follow manufacturer's recommendations.
- Use a spray-on wax product and a low-speed buffer to maintain the floor. When refinishing becomes necessary, use a stripper to remove the wax finish only and leave the sealer intact.

Low-speed stripping and buffing operations may take a little more time, but they will produce excellent results with minimal health and liability risks.

5-9 Other Certification Requirements

After asbestos O&M plans specific to the facility have been developed, an accredited asbestos project designer must design any response action that needs to be performed. Check the individual state laws for project designer certification requirements. For abatement work, ensure that contractors have taken and passed the AHERA Asbestos Abatement Contractor and Supervisors course and have current state certification.

5-10 Real Property Transactions and Disclosure Requirements

5-10.1 General Information

The Postal Service owns or leases over 36,000 buildings. Because OSHA treats owners or lessors as the employers of tenants, the owners or lessors must share their knowledge about any asbestos in their building with the tenants of the building. Therefore, the Postal Service will comply with the following asbestos management program guidance:

- The DAPC initiates the development of asbestos O&M plans for buildings where the Postal Service performs or

directs maintenance or custodial activities that come into contact with or disturb asbestos. The O&M plan must relate to the particular postal activities involving asbestos.

- The owner or lessor is obligated by OSHA to disclose the presence and condition of asbestos. This disclosure is best accomplished by providing tenants with a copy of the facility's asbestos O&M plan.
- When maintenance and custodial activities are performed by both lessors or owners and occupants (divided between the two), each of the performing or directing organizations must contribute to the O&M plan. The Postal Service O&M plan format and work practices should be shared and suggested for use as the overall O&M plan. The involved lessors or owners will be requested to sign the postal O&M plan to indicate their intent to comply with the O&M plan or otherwise are expected to be responsible for designated activities within the O&M plan.

5-10.2 Standard Operating Procedures

The Postal Service has developed a list of standard operating procedures (SOPs) for real property transactions involving buildings that may or do contain ACM. These SOPs contain required actions that must be accomplished for each situation and the designation of a responsible party for completing the actions. The required procedures are listed below, followed by the responsible party named in parentheses:

- If the Postal Service is a lessee or owner of currently occupied space:
  - Leased space is surveyed for ACBM. (DAPC)
  - Survey results are entered into EMIS; the Administrative Support unit is notified. (DAPC)
  - A copy of the DAPC notice is sent to the FSO or MFO. (Administrative Support)
  - Results are retrieved from EMIS and forwarded to the lessor. (FSO or MFO)
  - Upon termination of lease or sale of property, EMIS information is transmitted to the buyer or lessor. (FSO or MFO)
- If the Postal Service is a lessee or owner of buildings constructed since 1990:
  - Asbestos certification is requested from the Administrative Support unit by listing desired facility information by finance and sublocation number. (DAPC)

- A copy of the DAPC notice is sent to the FSO or MFO. (Administrative Support)
- The certification is forwarded or obtained and forwarded to the DAPC; if it is not available within 6 weeks, the FSO or MFO notifies the DAPC to obtain a survey. (FSO or MFO)

- If the Postal Service is a lessee or buyer of (permanent) space previously unoccupied by the Postal Service:
  - Asbestos information is requested from the offeror and the information is forwarded to the environmental specialist (ES). (real estate specialist (RES) or ES)
  - The owner's asbestos information is evaluated. (ES)
  - The information is determined to be *adequate* (ES) (if information is *inadequate,* see next bullet):
    - The decision whether to accept the lease or purchase the property is made. (FSO or MFO)
    - Necessary alterations and/or improvements, **managing asbestos in place as necessary** (in accordance with the MI), are made. (FSO or MFO)
    - A copy of the accepted lease or deed and the as-built drawings is sent to the Administrative Support unit. (FSO or MFO)
    - Information about the new facility and a copy of the as-built drawings and lessor's asbestos information are provided to the DAPC. (Administrative Support)
    - A survey of the building as leased and occupied is contracted out. (DAPC)
    - Asbestos information is entered into EMIS. (DAPC)
    - The O&M plan is initiated. (DAPC)
  - The information provided by the offeror is determined to be *inadequate* (ES):
    - A survey is obtained to determine the amount, location, and condition of all friable and nonfriable ACBM located at the site, and the cost to remove any damaged or friable asbestos in accordance with the MI. (RES or ES)
    - If the space is acceptable (based on the evaluation by the ES in accordance with the MI and applicable law), the decision whether to accept the lease or purchase the property is made. (RES)

- Necessary alterations and/or improvements, **managing asbestos in place as necessary** (in accordance with the MI), are made. (FSO or MFO)
- A copy of the accepted lease or deed and the as-built drawings is sent to the Administrative Support unit. (FSO or MFO)
- Information about the new facility and a copy of the as-built drawings and lessor's asbestos information are provided to the DAPC. (Administrative Support)
- A survey of the building as leased and occupied is contracted out. (DAPC)
- Asbestos information is entered into EMIS. (DAPC)
- The O&M plan is initiated. (DAPC)

■ If the Postal Service is a lessee or buyer of short-term (Christmas or emergency) space, or of space to be leased as is (no remodeling required) that was previously unoccupied by the Postal Service:

- Asbestos information is requested from the offeror, and the information is forwarded to the ES (RES or ES)
- The offeror's asbestos information is evaluated. (ES)
- The information is determined to be *adequate* (ES) (if information is *inadequate,* see next bullet):
  - The lease is accepted. (RES)
  - A copy of the lease is forwarded to the Administrative Support unit to notify them of the control of the new space. (FSO or MFO)
  - A survey of the building as leased and occupied is contracted out. (DAPC)
  - Asbestos information is entered into EMIS. (DAPC)
  - The O&M plan is initiated. (DAPC)
- The information provided by the offeror is determined to be *inadequate* (ES):
  - A survey is obtained to determine the amount, location, and condition of all friable and nonfriable ACBM located at the site, and the cost to remove any damaged or friable asbestos in accordance with the MI. (RES or ES)
  - If the space is acceptable (based on the evaluation by the ES in accordance with the MI and applicable law), the lease is accepted. (RES)

- A survey of the building as leased and occupied is contracted out. (DAPC)
- Asbestos information is entered into EMIS. (DAPC)
- The O&M plan is initiated. (DAPC)

- If the Postal Service is a lessor or owner with tenants with or without Postal Service employees in a currently occupied space:
  - A survey is obtained. (DAPC)
  - The O&M plan is initiated. (DAPC)
  - Information is entered into EMIS; the FSO or MFO is notified through the Administrative Support unit. (DAPC)
  - Information is retrieved from EMIS and forwarded to tenants (both current and new). (Asset Management)

- If the Postal Service vacates the space or sells the building (there is no further occupancy or ownership of the building):
  - A termination of lease or disposal of building is requested. (Administrative Support)
  - The lease is terminated or the building is sold. (FSO or MFO and/or Asset Management)
  - Information is retrieved from EMIS and forwarded to other tenants or occupants and to the lessor or buyer. (FSO or MFO and/or Asset Management)

5-11 Targeted Surveys: Demolition and Renovation

Chapter 4 discussed the types of SOWs that can be used for such targeted survey projects as demolition, repairs and alterations, renovations, and the AOI program. Repairs and alterations and the AOI program are specific postal operations that are regulated by the OSHA General Industry or Construction standards for asbestos depending upon the amount of ACM disturbed or removed. The NESHAP regulations contain additional specific instructions that mandate certain actions for demolition and renovation projects.

Under the CAA of 1970, ACM is regulated as part of the NESHAP program. NESHAP regulations for asbestos are found under Subpart M, 40 CFR Part 61, Sections 140–157. This subpart regulates numerous activities that involve asbestos and its potential for environmental release; however, only the following sections have practical relevance to postal facilities: demolition and renovation, insulating materials, waste disposal, and roof removal operations.

5-11.1 Demolition and Renovation (40 CFR 61.145)

Demolition and renovation activities are likely to occur during the life-cycle of older Postal Service facilities; therefore, familiarity with NESHAP requirements is quite relevant. The CAA defines these activities as follows: *demolition* is the "taking out of any load-supporting structural member" and *renovation* involves the "stripping or removal of RACM."

The applicability of the regulations regarding notification and procedures for asbestos emission control can then be determined in Part 61.145(a), and the specific requirements, as determined by the types and amounts of asbestos identified, can be found in Parts 61.145(b) and (c), respectively. The following summarizes the regulations on applicability:

- In a facility being demolished, all requirements for notification and procedures for emission control apply if the material meets minimal RACM thresholds amounts. The only exception is the case of a building being demolished by governmental order as being structurally unsound or in imminent danger of collapse.
- In a facility being renovated, "including any individual nonscheduled renovation operation," all requirements for notification and procedures for emission control apply if the material meets minimal RACM thresholds amounts.

To understand the applicability of the asbestos standards in the NESHAP program, such terms as RACM must be defined. EPA has created three categories of ACM:

- Friable — can be crumbled by hand pressure.
- Category I nonfriable — includes asbestos-containing packing, gaskets, resilient floor coverings, and asphalt roofing with more than 1 percent asbestos.
- Category II nonfriable — includes any material that is not Category I nonfriable material containing more than 1 percent asbestos.

The EPA regulations apply only to RACM, which is further defined as either:

- Friable ACM.
- Category I nonfriable ACM that has become friable.
- Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.

- Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by renovation or demolition activities.

When the regulations are taken as a whole, they imply that any ACM that is or can be disturbed during renovation or demolition is RACM.

In the case of a demolition or renovation, a thorough inspection of the facility or the affected area of a facility should occur to determine the presence of asbestos, including Category I nonfriable ACM and Category II nonfriable ACM. This inspection is necessary to determine which requirements of this section apply to a specific facility. See section 3-8 for specific guidance provided in the NESHAP demolition decision tree.

In general, the regulations require that EPA, or its designee, be notified before starting any removal project involving RACM or *any* demolition project even if no RACM is involved. The following summary highlights the notification requirements from the appropriate subparagraphs:

- Provide the EPA administrator with a written notice of the intent to renovate or demolish.
- Update the notice whenever the amount of asbestos affected changes by at least 20 percent.
- Postmark or deliver the notice as specified in Part 61.145(b)(3), provide information as specified in Part 61.145(b)(4), and use the notification form as specified in Part 61.145(b)(5).

The following requirements apply to asbestos emission control:

- Remove all RACM from a facility being demolished or renovated before any activity begins that would disturb it or preclude access for later removal, with exceptions as provided in Part 61.145(c)(1).
- When removing an asbestos-containing, -covered, or -coated item from a facility, wet all exposed RACM during cutting or dislodging and carefully avoid damaging or disturbing the RACM.
- When RACM is stripped “in-place” from a facility, wet it down during the operations, with exceptions as provided in Part 61.145(c)(3).
- After removal of an RACM-containing, -covered, or -coated item, contain it in a leak-tight wrapping or strip it in keeping with Part 61.145(c)(4).

- Do not strip large components, except for beams, if they meet the specific requirements provided in Part 61.145(c)(5).
- Handle all RACM in keeping with Parts 61.145(c)(6) and (7).
- Do not perform any asbestos operations except under the direction of at least one trained on-site representative. Training must include components listed in Part 61.145(c)(8) and must be refreshed every two years.
- If a facility falls under the imminent danger provision in the applicability section, wet all RACM before wreckage can proceed.
- If a building is demolished by intentional burning, remove all RACM, including Category I and II nonfriable ACM, as detailed above.

5-11.2 Insulating Materials (40 CFR 61.148)

No owner or operator of a facility may install or **reinstall** any insulating materials that contain commercial asbestos on any facility component if the materials are either molded and friable or wet-applied and friable after drying.

5-11.3 Waste Disposal (40 CFR 61.150)

EPA and most states treat ACM waste as a hazardous material but not a hazardous waste because of its particular physical properties. As a result, most landfills that can receive construction waste can also accept ACM wastes. Most states closely regulate landfills that accept ACM wastes; therefore, Postal Service facilities should verify that they are properly disposing of waste ACM in a designated ACM waste cell at a permitted disposal facility.

When waste ACM is handled, no visible emission to the outside air can be discharged during the collection, processing, packaging, or transportation from the source, and all containers or wrapped material must be labeled with the name of the waste generator and the source location. For help in complying with ACM waste handling, follow the guidance provided by any or all of the following procedures:

- Adequately wetting ACM waste (subparagraphs (1) and (3)).
- Processing ACM waste into nonfriable forms (subparagraph (2)).
- Applying for approval of alternative emission controls or treatment methods (subparagraph (4)).

For demolition and renovation projects, this regulation does not apply to Category I and II nonfriable ACM waste that was not crumbled, pulverized, or reduced to powder. In addition, all vehicles used to transport ACM waste must be visibly marked with placards or signs during the loading and unloading of waste, in accordance with Part 61.149(d)(1).

Although formal manifesting as a hazardous waste is not required, the regulations delineate a procedure that closely mimics regulations covering formal manifesting procedures. Details can be found in Part 61.150(d)(1–5). In summary, for all ACM waste transported off the facility, waste shipment records must be maintained, a copy of the record must be provided to the disposal site owners or operators, and a copy of all waste records that have been signed by the disposal site owners or operators must be retained for at least 2 years. In addition, some requirements mandate that exception report procedures must be started when signed copies of waste records are received.

5-11.4 Roof Removal Operations (Subpart M, Appendix A)

Operations that involved the removal or replacement of roofing material with a content of ACM greater than 1 percent, as determined by PLM, were not originally included as a separate section of NESHAP Subpart M and were not specifically mentioned in the demolition and renovation section of the subpart. Because of its common nature and the lack of specific guidance given this operation, EPA determined that it should clarify the NESHAP requirements. In June 1994, the EPA promulgated Subpart M, Appendix A, *Interpretive Rule Governing Roof Removal Operations.*

The general topics covered in this appendix are the same as those in the previously discussed rules. In addition, the specific regulations are quite similar to, or in many cases identical to, those described above. In summary, the following regulatory areas covered in the appendix include:

- Applicability based on type and amount of ACM.
- Notification requirements.
- Emission control practices and exemptions.
- Waste collection, handling, and disposal requirements.
- Training.

6 O&M Program

6-1 EPA Green Book

The Green Book, *Managing Asbestos In Place, A Building Owner's Guide to Operations and Maintenance Programs for ACMs,* expands and refines the Purple Book's guidance for the development and use of a special O&M program. The Green Book is a guide that emphasizes the importance of managing asbestos in place whenever possible. The guidance serves two purposes. First, it offers building owners detailed and up-to-date instructions needed to implement a successful O&M program. Second, it relates how an effective O&M program, in many situations, is a more appropriate asbestos control strategy than removal actions. The Green Book should be used as guidance for developing facility-specific O&M plans for asbestos management.

6-2 O&M Program Elements

As detailed in the Green Book, to achieve its objectives, an O&M program should include seven elements. Although these elements should appear in any O&M program, their prominence will vary from program to program depending on the building type, the type of ACM present, and the ACM's location and physical condition. For example, the presence of only nonfriable ACM requires minimal notification, and custodial or maintenance staff would need to follow fewer work practices. If friable ACM is present, a more detailed O&M program should be prepared and followed. This chapter describes the first six elements and illustrates a basic O&M program. The seventh program element, training of the asbestos program manager and custodial and maintenance staff, is very important; Postal Service-specific requirements are covered separately in Chapter 9. If staff are not adequately trained, the O&M program will not be effective.

A successful O&M program should include the following elements:

- Notification — program to tell workers, tenants, and building occupants where ACM is located, why occupants should avoid disturbing the ACM, and how to avoid disturbing the ACM. All persons affected should be properly informed.
- Surveillance — regular surveillance of the ACM to note, assess, and document any changes in the ACM's condition.
- Controls — work control and permit system to control activities that might disturb ACM.

- Work practices — O&M work practices to avoid or minimize fiber release during activities affecting ACM.
- Worker protection — medical and respiratory protection programs, as applicable (this is combined with work practices above).
- Recordkeeping — documentation of O&M activities.
- Training — training of asbestos program manager and custodial and maintenance staff (see Chapter 9).

6-2.1 Notification of Building Workers, Tenants, and Other Occupants

Specific guidance on postal notification requirements is contained in Chapter 9. This section covers general requirements as published in the Green Book.

Building owners should inform building workers, occupants, and tenants about the location and physical condition of the ACM that they might disturb and stress the need to avoid disturbing the material. Occupants should be notified for the following two reasons:

- Building occupants should be informed of any potential hazard in their vicinity.
- Informed persons are less likely to disturb the material and cause fibers to be released into the air.

Building owners can distribute written notices, post signs or labels in a central location where affected occupants can see them, and hold awareness or information sessions to inform occupants about the presence of ACM. The methods used may depend on the type and location of the ACM and on the number of people affected. Some states and localities have right-to-know laws that may require notification of *all* occupants, workers, and visitors in buildings where ACM is present.

In service and maintenance areas (e.g., boiler rooms), signs such as "**Caution — Asbestos — Do Not Disturb**" placed directly adjacent to TSI ACM will alert and remind maintenance workers not to disturb the ACM inadvertently. In most cases, prominent warning signs should be placed next to all boilers, pipes, and other equipment that contain ACM in service areas where damage may occur. As an alternative, color coding can be used to identify the ACM, provided that all potentially involved parties understand the coding system.

Information sessions reinforce and clarify written notices and signs and provide an opportunity for questions. All employees and tenants or tenant representatives likely to disturb ACM must be included in the notification program on a continuing basis. Building owners should

inform new employees about the presence of ACM before the employees begin work. Owners should provide additional signs and information sessions in languages other than English when a significant number of workers, occupants, or visitors do not speak English. For illiterate workers, owners may have to make special provisions, such as providing clear verbal information or signs, warning them about the potential hazards of disturbing ACM and showing them where the ACM is located.

The specific information given to different types of building occupants will vary. For example, since service workers carry out certain tasks that office workers or tenants do not perform, they should receive additional information. Most importantly, O&M workers must receive the training they need to perform their tasks safely.

Whatever its form, the information given to building occupants and workers should include the following points to the extent these points reflect building conditions:

- A statement that ACM has been found in the building and is located in areas where occupants and workers could disturb the material.
- The condition of the ACM and the response appropriate for that condition.
- A clear statement that asbestos presents a health hazard only when fibers become airborne and are inhaled. The mere presence of ACM does not represent a health hazard.
- The location of the ACM (e.g., ceilings in Rooms 101 and G-323, walls in the lobby above suspended ceilings in the first floor corridor, on columns in the main entry, on pipes in the boiler room).
- Instructions not to disturb the ACM (e.g., do not push furniture against the ACM, do not damage TSI).
- Instructions to report any evidence of disturbance or damage of ACM to (name, location, and phone number of asbestos program manager).
- Instructions to report any dust or debris that might come from the ACM or suspect ACM, any change in the condition of the ACM, or any improper action (relative to ACM) of building personnel to (name, location, and phone number of asbestos program manager).
- A clear statement that cleaning and maintenance personnel are taking special precautions during their work to clean up any asbestos debris properly and to guard against disturbing ACM.

- A statement that all ACM is inspected periodically and additional measures will be taken if needed to protect the health of building occupants.

An honest and open approach to the ACM notification procedure is important. Owners should strive to establish clear lines of communication with building occupants regarding asbestos issues. People who are informed of the presence, location, and condition of ACM in a building where they work or live, who understand that the mere presence of ACM is not necessarily hazardous to them, and who accept that ACM can often be managed effectively in place can be very helpful to the owner in eliminating or reducing hysteria on the part of other, less informed building occupants. On the other hand, if occupants suspect the building owner is not being honest about asbestos activities in the building, that owner's credibility may be questioned, and the situation can become far more difficult to manage. If and when asbestos incidents occur, the building owner must deal with occupants and contractors openly and honestly; open and effective communication is the best way to maintain occupant and tenant confidence in both the owner and the building's asbestos program.

6-2.2 ACM Surveillance

Periodic Surveillance

As part of the O&M program, a visual inspection of all ACM should be conducted at regular intervals. Combined with the service workers' ongoing reports of changes in the condition of the ACM, the inspection should help ensure detection and corrective action for any ACM damage or deterioration.

According to recent EPA regulations covering schools (AHERA), an accredited inspector must reinspect school buildings at least once every 3 years to reassess the condition of ACM. The AHERA regulations for schools also require a routine surveillance check of ACM every 6 months to monitor the ACM's condition. Under the AHERA rule, a trained school custodian or maintenance worker can conduct this surveillance. These intervals are mentioned as a guide; they may also be appropriate for other buildings. The asbestos program manager should establish appropriate intervals, based on consultation with the building owner and any other qualified professionals involved in the O&M program. (Note that the AHERA reinspection requirement does not apply to Postal Service facilities.) The Postal Service requires FACs to periodically survey the condition of ACM every 6 months.

EPA recommends a visual and physical evaluation of ACM during the reinspection to note the ACM's current condition and physical

characteristics. Through this reinspection, the relative degree of damage can be determined and the likelihood of future fiber release can be assessed. Maintaining a set of visual records (photos or videotape) of the ACM over time can be valuable.

Some asbestos consultants recommend examining settled dust for accumulations of asbestos fibers as another surveillance tool in an O&M program. Although no universally accepted standardized protocols currently exist for sampling and analysis of settled dust, positive results (i.e., ACM is present in the dust) may indicate the need for special cleaning of the affected area or other action. Because the results of this testing are difficult to interpret and evaluate at this time, building owners should carefully consider the appropriateness of this testing to their situation.

Supplement to Visual and Physical Evaluation

As part of an O&M program, a carefully designed air monitoring program to detect airborne asbestos fibers in the building may provide useful supplemental information when conducted along with a comprehensive visual and physical ACM inspection and reinspection program. If the ACM is currently in good condition, increases in airborne asbestos fiber levels at some later time may provide an early warning of deterioration or disturbance of the material. In that way, supplemental air monitoring can be a useful management tool. If an owner chooses to use air monitoring in an early warning context, he or she should consult a knowledgeable and experienced individual to design a proper sampling strategy. Refer to the EPA Pink Book and Purple Book for further details on proper sampling strategies and procedures.

If supplemental air monitoring is used, a baseline airborne asbestos fiber level should be established soon after the O&M program is initiated. Collect representative multiple air samples throughout the building during periods of normal building operation. Collect these samples over a long period of time so that they will be representative of existing conditions and will adequately characterize prevailing fiber levels in the building. This air monitoring should supplement, not replace, physical and visual inspection. Visual inspection can identify situations and anticipate future exposure (e.g., worsening water damage); air monitoring can detect a problem only after it has occurred and fibers have been released.

Note that aggressive air sampling methods should not be used to collect air samples for supplementary evaluation. Aggressive sampling methods, in which air is deliberately disturbed or agitated with a leaf blower or fan, should be used at the completion of an asbestos removal project when the building or area is unoccupied, not for routine monitoring.

The most accurate and preferred method for analysis of air samples collected under an O&M program requires TEM. PCM, which is commonly used for personal air sample analysis and as a screening tool for area air monitoring, cannot distinguish between asbestos fibers and other kinds of fibers present in the air. PCM analysis also cannot detect thin asbestos fibers and does not count short fibers. TEM analysis is approximately ten times more expensive than PCM analysis. However, the more accurate information on actual levels of airborne asbestos fibers is more beneficial to the building owner who uses supplemental air monitoring in the asbestos management program. Laboratories accredited by the National Institute for Standards and Technology (NIST) who follow EPA's quality assurance guidelines conduct the most reliable TEM.

If the building owner conducts supplemental air monitoring under the O&M program, selection of a reliable and experienced air monitoring firm and analytical laboratory is important. If the building owner or asbestos program manager has limited knowledge in this area, he or she should contact a consultant knowledgeable in air sampling and analysis protocols for recommendations.

Periodic air monitoring, conducted simultaneously with visual reinspection or surveillance, indicates whether or not asbestos levels have changed relative to the baseline. Some building owners may wish to inform building occupants about current air monitoring and physical reinspection results.

Although this supplemental use of air monitoring as part of an O&M program may provide useful information, it is likely to be expensive, particularly if the more accurate and recommended TEM analysis is used. However, building owners should not depend on air monitoring because it can be inaccurate. If only a small number of measurements or measurements taken only at one time are used, the result may be misleading (i.e., causing an overestimate or underestimate of fiber levels) and can lead to inappropriate decisions. Some exposures to airborne asbestos fibers in buildings may be a result of such episodic events as repair work or accidental disturbance of the ACM or ACM debris by maintenance activities inside the building. Infrequent air monitoring may not include such episodic events and, therefore, may contribute to a misleading interpretation of air sampling results. In particular, air sampling may underestimate the exposure of O&M workers and building occupants.

6-2.3 Work Control and Permit System

The O&M program should include a system to control all work that could disturb ACM. Some building owners have successfully used a work permit program that requires the person requesting the work to submit a job request to the asbestos program manager before

beginning any maintenance work. The request gives the time and location of the requested work, the type of maintenance needed, and available information about any ACM in the vicinity of the requested work. The contractor or other person authorized to perform the work is identified on the work request.

Upon being notified of required work, the asbestos program manager takes the following steps:

- Refers to written records, building plans and specifications, and any building ACM inspection reports to determine whether ACM is present in the work area. If ACM is present but disturbance of the material is not anticipated, the asbestos program manager should note the presence of the ACM on the authorization permit and provide additional instruction on the importance of not disturbing the ACM.
- If ACM is both present and likely to be disturbed, the asbestos program manager or a designated supervisor qualified by training or experience should visit the site and determine the work practices that should be instituted to minimize the release of asbestos fibers during the maintenance activity (initial site visits may not be required for work performed under a valid NEA).
- The asbestos program manager or designated supervisor should record these work practices on Form 8210, *Work Authorization — Asbestos* (see example in section 8-4), which is then sent to the in-house maintenance supervisor or to the maintenance contractor to authorize the work.
- The asbestos program manager should make sure that a copy of both the job request and Form 8210 (if authorized) are placed in the permanent file.
- When the task is not covered by previously approved standard work practices, the asbestos program manager should make sure that appropriate work practices and protective measures are used for the job.
- When contact with ACM is likely, the asbestos program manager or designated supervisor qualified by training or experience should visit the work site when the work begins to verify that workers are properly performing the job (initial site visits may not be required for work performed under a valid NEA). The asbestos program manager or designated supervisor should periodically inspect lengthy jobs for the duration of the project when disturbance of ACM is intended or likely.
- The asbestos program manager’s observations should be provided on a work evaluation sheet. He or she should

record any deviation from standard and approved work practices immediately on this sheet, and workers should immediately correct the practices **and report these corrections to the asbestos program manager**.

- Upon completion of the work, a copy of the work evaluation sheet should be placed in the permanent asbestos file for the building.

Building owners should consider using asbestos O&M work control records similar to those that are already in use for non-ACM work in their facilities or expanding the existing records to include the content of the request, approval, and evaluation documents.

The O&M program management system should also address work conducted by outside contractors. Many building owners contract for at least some custodial and maintenance services. A building's asbestos work control and permit system, as described above, should also cover contract work.

At a minimum, contracts with service trades or abatement companies should include the following provisions to ensure that the service or abatement workers can and will follow appropriate work practices:

- Proof that the contractor's workers have been properly notified about ACM in the owner's building and that they are properly trained and accredited (if necessary) to work with ACM.
- Copies of respiratory protection, medical surveillance, and worker training documentation as required by OSHA, EPA, and state regulatory agencies.
- Notification by owner to building tenants and visitors that abatement activity is underway.
- Written work practices submitted by the vendor or contractor for approval or modification by the asbestos program manager. The vendor or contractor should then agree to abide by the work practices as finally accepted by the asbestos program manager.
- Assurance that the contractor will use proper work area isolation techniques, proper equipment, and sound waste disposal practices.
- Historical data of the contractor's previous projects with emphasis on projects similar to those likely to be encountered in the building.
- Provisions for inspections of the area by the owner's representative to ensure that the area is acceptable for occupants and tenants to reenter.

- A resume for each abatement contractor supervisor or maintenance crew chief, known as the **competent person** in the OSHA standard and EPA worker protection rule.
- Criteria to be used for determining successful completion of the work (i.e., visual inspections and air monitoring).
- Any other information deemed necessary by the owner's legal counsel.
- Notification to EPA (and other appropriate agencies), as required, if the abatement project is large enough.

6-2.4 O&M Work Practices

The O&M program focuses on a special set of work practices for the custodial, maintenance, and construction staff. The nature and extent of any special work practices should be tailored to the likelihood that the job will disturb ACM and release fibers. In general, the following four broad categories of O&M work practices are recognized:

- Worker protection programs — work practices that help ensure that custodial and maintenance staff are adequately protected from asbestos exposure.
- Basic O&M procedures — basic procedures used for routine custodial and maintenance tasks that may involve ACM.
- Special O&M cleaning techniques — special techniques to clean up asbestos fibers on a routine basis.
- Procedures for asbestos fiber release episodes — procedures used by the building owner to address the hazard if moderate to relatively large amounts of ACM are disturbed.

Worker Protection Programs

A worker protection program includes engineering controls, personal exposure monitoring, medical surveillance, and personal protection. Although engineering controls are the preferred method of protecting workers, few engineering control options are available for O&M work. Wearing respirators and protective clothing are two key aspects of personal protection in an asbestos O&M program. According to OSHA regulations, a respiratory protection program in writing is necessary whenever an O&M program specifies that service workers wear respirators or when respirators are made available to employees. OSHA regulations also require a respirator program whenever workers are exposed or are likely to be exposed to fiber levels above OSHA's PELs, such as the 8-hour TWA limit or the 30-minute EL. In addition, OSHA requires that workers wear special protective clothing under the same circumstances.

Basic O&M Procedures

Basic O&M procedures to minimize and contain asbestos fibers may include using wet methods, mini-enclosures, and portable power tools equipped with special local ventilation attachments and also avoiding such activities as sawing, sanding, and drilling ACM. Maintenance activities can be divided into three categories with regard to their potential for disturbing ACM:

- Those that are unlikely to involve any direct disturbance of ACM; for example, cleaning shelves or countertops with a damp cloth.
- Those that may cause accidental disturbance of ACM; for example, working on a fixture near a ceiling with surfacing ACM.
- Those that involve intentional small-scale manipulation or disturbance of ACM; for example, removing a small segment of TSI ACM to repair a pipe leak.

The O&M program should include work practices for each type of ACM that is present in the building (surfacing, TSI, and miscellaneous) and for each category of maintenance activity performed (e.g., general cleaning, electrical work, plumbing).

Such special work practices as wet wiping, area isolation, and HEPA vacuuming and the use of such personal protective equipment as respirators and protective clothing may be needed when disturbance of ACM is likely. The need for these practices varies with the situation. For example, removing light fixtures located near surfacing ACM may disturb the material and might require using special cleaning techniques, possibly isolating the area, and wearing respiratory protection. Periodic emptying of a trash can near heavily encapsulated asbestos-containing plaster may not disturb the material at all, so, generally, no special work practices would be necessary. These work practices and procedures ensure that disturbance of any ACM during O&M activities is minimized or carried out under controlled conditions when the nature of a specific O&M task disturbs the ACM.

In addition, ACM may readily release asbestos fibers into the air when workers perform certain mechanical operations directly on it. For example, fiber releases can occur when workers are drilling, cutting, sanding, breaking, or sawing vinyl asbestos floor tile. The action of drilling, cutting, abrading, sanding, chipping, breaking, or sawing is a critical factor, since these actions are likely to cause a release of fibers. Maintenance or repair operations involving those actions should be eliminated or carefully controlled with basic O&M procedures in order to prevent or minimize asbestos fiber release.

Certain activities that occur in the vicinity of ACM can also cause damage that may result in asbestos fiber release. For example, while performing other tasks, maintenance and custodial staff may damage ACM accidentally with broom handles, ladders, and forklifts. Workers should always proceed with caution when performing activities in the vicinity of ACM to prevent fiber release.

If the possibility of disturbing ACM during maintenance activities is in doubt, adequate precautions should be taken to minimize fiber release; these precautions will protect both workers and the building environment. Use basic O&M procedures, including wet methods and specially equipped tools, to protect building occupants.

O&M Cleaning Practices

Special cleaning practices are appropriate for a building with exposed surfacing or thermal system insulation ACM, especially if the ACM is friable. If gradual deterioration or damage of ACM has occurred or is occurring, asbestos-containing dust or debris could be present. If the building inspection has determined that asbestos-containing dust or debris is present in some areas, then the O&M program should include special cleaning practices to collect residual asbestos dust. Routinely cleaning floors using wet methods is an example of one such practice. Custodial and maintenance workers, in the course of normal work, can also identify and report areas that need special cleaning or repair. Special cleaning techniques should supplement, not replace, repair or abatement actions for damaged, friable ACM. The cleaning program should include an initial cleaning followed, as needed, by subsequent periodic or episodic cleanings.

Building owners and custodial and maintenance staff should ensure that special O&M cleaning is done correctly. Proper cleaning is important for the following two reasons:

- Using improper techniques to clean up asbestos debris caused by previous deterioration or damage may result in widespread contamination and could increase airborne asbestos fiber levels in the building.
- Improper cleaning may cause damage to the ACM and thus release more airborne asbestos fibers.

Note

Proper O&M cleaning includes wet-cleaning or wet-wiping practices to pick up asbestos fibers.

Proper O&M cleaning includes wet-cleaning or wet-wiping practices to pick up asbestos fibers. Dry sweeping or dusting can resuspend asbestos fibers into the building's air and, therefore, should not be used. Once wet cloths, rags, or mops have been used to pick up asbestos fibers, they should be properly discarded as asbestos waste while still wet. They should not be allowed to dry out, since the collected fibers might be released at some later time when disturbed. Using special vacuum cleaners, commonly referred to as HEPA

vacuums, may be preferable to wet cleaning in certain situations. These vacuums are equipped with filters that remove very small particles or fibers, such as asbestos, by filtering those particles from the air passing through the vacuum. Since the exhaust air from an ordinary vacuum cleaner is not filtered sufficiently, tiny asbestos fibers can pass through the filter and back into the building air.

O&M workers must use caution when emptying HEPA vacuums and changing the filters. Exposures could result from such activities. The worker should move the HEPA vacuum to a physically isolated area of the facility and put on proper personal protective equipment before emptying the dust and debris into properly labeled, sealed, and leak-tight containers for disposal as asbestos-containing waste. When custodial workers do not work with ACM, trained maintenance workers may empty the HEPA vacuums and change their filters.

Decisions regarding special cleaning practices should be based on the building inspection and ACM assessment data, including the potential for ACM disturbance. In general, cleaning the building does not need special O&M practices when the building contains only nonfriable (not easily crumbled) ACM; ACM that has been encapsulated, encased, or enclosed behind airtight barriers; or ACM known to be undamaged and undisturbed since the last special cleaning. Furthermore, when ACM is confined to a single room or area, special cleaning of just that area may be sufficient.

If ACM has been released onto a carpeted area of a building, workers may not be able to clean the carpeted area adequately. Steam cleaning and HEPA vacuuming methods are sometimes employed for this purpose. A preliminary EPA study conducted in 1989 showed that, under test conditions, hot water vacuums were more effective in carpet cleaning than HEPA vacuums. Further field studies are planned to confirm these findings. For carpets, successful cleaning will likely depend on such factors as the amount of ACM released onto the carpet, the duration of the situation, traffic over the area, and the structure and composition of the carpet itself. Evaluating individual situations on a case-by-case basis is prudent. The asbestos program manager should consider whether workers engaged in cleaning asbestos fiber-contaminated carpets should wear proper respiratory protection. Conducting this type of cleaning after normal working hours or when the facility is less occupied is a prudent practice. In addition, properly disposing of contaminated carpets and other fabrics as asbestos-containing waste may be more cost-effective if a permanent asbestos control option is being instituted in the building.

When the ACM is damaged and located in an air plenum where the HVAC system can transport fibers throughout the building, special cleaning practices may need to be extended throughout the entire building, including the HVAC system itself.

Procedures for Asbestos Fiber Release Episodes

Guidance for postal-specific fiber release episode responses is contained in Chapter 11. This section covers general fiber release requirements as published in the Green Book.

Special procedures are generally needed to minimize the spread of fibers throughout the building after asbestos fiber releases. These procedures are needed whether the ACM disturbance is intentional or unintentional. To provide building owners with some guidance, the EPA regulations for schools define a major fiber release as one involving more than 3 square or linear feet of ACM. The procedures vary according to the site of the major release episode, the amount of ACM affected, the extent of fiber release from the ACM, the relationship of the release area to the air handling systems, and accessibility of the release site to building occupants. Depending on the severity of the episode, asbestos abatement consultants and contractors may need to develop a strategy for conducting the cleanup operations.

In general, for major fiber releases, the area should be isolated by closing doors or erecting temporary barriers to restrict airflow and access to the site. Signs should immediately be posted outside the fiber release site to prevent persons not involved in the cleanup operation from inadvertently entering the area. If asbestos fibers could enter the HVAC system, the system should be modified to prevent fiber entry or should be shut down and sealed off. Finally, thorough cleanup procedures should be used to control the ACM properly, the affected area should be visually inspected very carefully, and final clearance air monitoring should be performed to verify satisfactory cleanup.

Similar procedures can be used for much smaller fiber release events, when the amount of ACM is 3 square or linear feet or less. The HEPA vacuuming, wet-wiping, and worker protection procedures outlined in this guide, as well as wetting ACM wastes and properly placing them in an appropriate leak-tight container (such as a properly labeled, 6-millimeter-thick plastic bag), are examples of some of the procedures that can be used for both major and minor fiber releases.

Workers involved with fiber release episodes also need different levels of training. A major release generally requires asbestos abatement worker training, rather than the degree of training considered adequate for O&M workers. EPA suggests that building owners and asbestos program managers consult with state and local regulatory officials before establishing formal training procedures for each type of situation.

6-2.5 Recordkeeping

The following building asbestos management documents discussed in this guide should be stored in permanent files: inspection and assessment reports, O&M plan, work practices and procedures, respirator use procedures, fiber release reports, maintenance work applications and approved Forms 8210, evaluations of work affecting ACM, and surveillance reports of ACM. In addition, for employees engaged in asbestos-related work, federal regulations require that employers retain the following records:

- Personal air sampling records, for at least 30 years (personal air samples are those collected in the worker's breathing zone during performance of work involving asbestos exposures).
- Objective data used to qualify for exemptions from OSHA's initial monitoring requirements for the duration of the exemption.
- Medical records for each employee, subject to duration of their employment plus 30 years.
- All employee training records for 1 year beyond the last date of each worker's employment.

EPA recommends that building owners make available all written elements of the O&M program to the building's O&M staff and to tenants and other building occupants, if applicable. Building owners are also encouraged to consult with their legal counsels concerning appropriate recordkeeping strategies as a standard part of their O&M programs. State and local regulations may also require additional recordkeeping procedures. See Chapter 10 for postal-specific recordkeeping requirements.

6-3 Postal-Specific Issues

The FAC surveys the ACBM at the Postal Service facility. Visual surveillance to note, assess, and document any change in the ACBM's condition must be completed every 6 months after the O&M plan is implemented. The surveillance continues until all ACBMs are removed from the facility or the facility no longer is under the control of the Postal Service.

The periodic surveillance is conducted in accordance with the appropriate OSHA and EPA regulations and guidance documents. The results of the surveillance should be entered into the EMIS database to update the status and condition of ACBMs in the facility. In addition, the QAR asbestos checklist may help the FAC to complete the surveillance requirements.

7 Abatement

7-1 General

The Postal Service must use the modified AHERA assessment protocols (explained in Chapter 5) for determining an abatement response that may include the following:

- Developing an O&M plan.
- Encapsulation.
- Enclosure.
- Repair.
- Removal.

This chapter covers unique Postal Service requirements for abatement, a discussion of abatement methods, and an evaluation of alternative responses.

The Postal Service must remove sprayed-on or troweled-on ACBM (defined as surfacing materials by OSHA) following their discovery regardless of their condition and exposure assessment results because such materials have a high potential for disturbance and fiber release. Since the early 1980s, this Postal Service policy has been consistent. The Postal Service can, however, manage-in-place such materials that have been previously encapsulated or enclosed if they are in good condition as defined by AHERA.

The Postal Service manages other ACBM in place except for the following cases:

- An assessment in accordance with AHERA protocols indicates a need for removal.
- Removal is necessary because of renovation or alteration projects (e.g., NESHAP).
- Removal will be more cost-effective than long-term management-in-place.

If ACM is going to be managed in-place, then AHERA requires an O&M program to be established. The O&M program will assist the facility manager to maintain friable ACM in good condition, ensure prompt cleanup of asbestos fibers previously released, and prevent future fiber releases by minimizing and controlling ACM disturbance.

Policy

If ACM is going to be managed in-place, then AHERA requires an O&M program to be established.

7-2 The Role of an O&M Plan in Abatement

As long as friable ACM remains in the building, AHERA requires that the Postal Service develop an O&M plan. A more comprehensive approach would include all ACM in the O&M plan, whether friable or not, and whether located inside or outside the building. An O&M plan prevents exposure to asbestos, wherever it is found.

O&M plans include protection of workers, worker training, scheduling of periodic surveillance, initial cleaning, and other necessary activities (see Chapter 6 for details). Proper maintenance, reinspection, and periodic monitoring are often the most cost-effective solutions for managing asbestos hazards.

Initially, an O&M plan probably costs less than all the alternatives, but annual costs will continue until all ACM is removed. On the other hand, a poorly enforced O&M plan increases the risk of asbestos exposure.

O&M plans must be viewed as the minimum asbestos response action.

7-3 Encapsulation

Definition

Encapsulation **means the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers.**

Encapsulation means the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers. Bridging encapsulants create a membrane over the surface of the ACBM, while penetrating encapsulants penetrate the ACBM and bind its components together.

Encapsulants are often viewed as an inexpensive approach to ACM abatement. However, encapsulants are limited in their applicability and may eventually make removal of ACM more difficult and costly. They are best viewed as enhancing an O&M program when applied to appropriate ACM.

Since applying encapsulants dislodges fibers from the surface of ACM, from a work practice perspective, encapsulation is equivalent to removal. Therefore, the same protective measures must be taken and, in addition, any encapsulant should be tested in the field before its use to validate that it is compatible with the ACM. Adhesiveness is preferable to cohesiveness in an encapsulant. See 3-5.1 for information on standard ASTM encapsulating procedures.

Definition

Penetrating encapsulants **are typically water-based compounds that are spray-applied over ACM and penetrate through the ACM matrix to the substrate.**

7-3.1 Penetrating Encapsulants

Penetrating encapsulants are typically water-based compounds that are spray-applied over ACM and penetrate through the ACM matrix to the substrate. Coating the asbestos fibers and thereby preventing release is the objective.

Penetrating encapsulants are not generally suitable over ACM in the following conditions:

- Cementitious ACM, since penetration is not possible.
- Friable, fluffy, or fibrous ACM, since it is difficult to distribute the encapsulant evenly and adequately throughout the ACM.
- ACM greater than 1-inch thick, since penetrating encapsulants usually cannot penetrate more than 1 inch.
- ACM that poorly adheres to the substrate or is delaminating, since the extra weight of the encapsulant can cause further delamination.
- ACM that has been painted, since the paint interferes with adequate penetration.
- ACM that has significant water damage, because of the high possibility of delamination.
- Where encapsulated ACM is subject to abrasion, impact, or renovation activities, since asbestos fibers can be released.
- ACM used as fireproofing, since encapsulation increases the density of fireproofing, resulting in reduced fire ratings.

Note

Because of numerous limitations, penetrating encapsulants are generally not suitable for most applications of ACM.

7-3.2 Bridging Encapsulants

Bridging encapsulants are typically water-based compounds that are spray-applied on the surface and form a homogeneous coating over the ACM. Providing a void-free surface over the ACM to prevent fiber release is the objective.

Definition

***Bridging encapsulants* are typically water-based compounds that are spray-applied on the surface and form a homogeneous coating over the ACM.**

Bridging encapsulants are generally suitable over:

- Cementitious forms of ACM.
- Painted ACM.

Bridging encapsulants are not recommended for ACM in the following situations:

- ACM that is subject to water damage, since water can pool behind the encapsulant and the ACM can partially or completely delaminate.
- ACM that is subject to abrasion or direct impact, since asbestos fibers can be released. Some products have significantly better performance in this regard than others.
- ACM that is friable, fluffy, or fibrous, since it is difficult to get a homogeneous, void-free surface.

- ACM that poorly adheres to the substrate, since that could result in the ACM and the bridging encapsulant separating from the substrate.

Some of the encapsulant materials have flame spread ratings. The fireproof ratings of surfaces could be altered by the use of encapsulants. Surfaces where encapsulants have been used should be annotated in the facility's fire safety plan.

7-4 Enclosure

Enclosures are airtight, impermeable, permanent barriers applied around ACBM to prevent the release of asbestos fibers. Enclosures are of two types:

- Mechanical systems (e.g., metal, gypsum board, plywood, plastic) consisting of materials that are mechanically fastened to a building's structure or substrate between the ACM and the ambient air space.
- Spray-applied enclosures.

7-4.1 Mechanical Systems

These enclosure systems are primarily used to enclose cementitious ACM on ceilings and protect fireproofing applied to structural steel columns. Gypsum board is used to ensure that the fire resistance of the fireproofing is not reduced. Plastic, steel, and aluminum are used to enclose pipe insulation. To be effective, all seams and joints must be sealed.

Note

Constructing enclosures can disturb ACM; thus, the same precautions should be used for enclosures as for removal projects.

Constructing enclosures can disturb ACM; thus, the same precautions should be used for enclosures as for removal projects. Full protection for abatement workers and for the building outside the work area should be provided.

The following list includes applications suitable for enclosure:

- All forms and thicknesses of ACM.
- ACM with some damage, because the enclosure materials are mechanically fastened into the building structure or substrate and do not place weight on the ACM.
- Enclosed ACM that is subject to impact and abrasion, if the enclosure material is adequately thick and durable.
- ACM fireproofing if gypsum wallboard is used, because the gypsum wallboard adds additional fire resistance.

Enclosure may not be a suitable control method for ACM in the following situations:

- Where the ACM is expected to receive significant water damage, because water could collect behind the enclosure unless suitable venting is provided.
- Where future renovation is planned, because the renovation will release asbestos fibers when boards or sheets are removed. However, the enclosure may provide interim protection.
- Where demolition is planned in the near future, because enclosure materials, in most cases, must be removed first.

7-4.2 Spray-Applied Enclosures

Spray-applied enclosures are often called encasement systems because the ACM is encased behind a hard surface. The material is applied by airless spray equipment and cures rapidly. Sealant can be applied in a range of thicknesses, usually 1/8 of an inch to 4 inches. At present, at least two encasement systems are available on the market. These enclosures consist of a structural shell that is sprayed over the ACM in one or two layers. Systems are mechanically fastened in a manner similar to mechanical enclosures to assure they stay in place. The encasement system's structural strength is high, but trained personnel must apply it in accordance with the manufacturer's specifications. A field test should be conducted to assure suitability and proper application.

Spray-applied enclosures are generally suitable for the following:

- For all forms and thicknesses of ACM.
- Over ACM fireproofing, because one of the present spray-applied enclosure systems has fire resistance comparable to gypsum wallboard and, therefore, does not adversely affect the fire rating of the fireproofing.
- For locations where enclosed ACM is subject to impact and abrasion, if the enclosure materials are adequately thick and durable.
- ACM with some damage, because the enclosure materials are mechanically fastened into the building structure or substrate and do not place weight on the ACM.
- Some situations in which future renovation is planned, because system designs can include mechanical fasteners and hangers to accommodate installation of such items as piping, electrical conduit, and partition headers.

Spray-applied enclosures are not suitable for ACM in locations that might receive significant water damage, since water could collect behind the enclosure unless suitable venting is provided.

7-5 Repair

The AHERA rule discusses repair of ACBM, both as a separate response action and as part of an ongoing O&M program. A variety of materials and procedures can be used to repair ACM. Small areas of surfacing ACM can be patched with asbestos-free spackling compound, caulk, or plaster. However, all loose material must be dislodged before patching. In addition, the cause of damage must be identified and eliminated. TSI can be repaired with caulk; asbestos substitutes such as fiberglass, Styrofoam™, and rubber; or new jackets. New jackets can be considered a form of enclosure.

7-6 Removal

Since NESHAP regulations require that all friable ACM must be removed before a building is renovated or demolished, removal is often described as the only permanent solution to ACM problems. Buildings with only small quantities of ACM are the exception. However, removal, poorly performed, may actually raise fiber levels in a building after the project is completed. In addition, removal and replacement of ACM frequently cost more initially than the alternatives. Therefore, the timing of removal is crucial to optimizing cost-effectiveness. See 3-6.3 and 3-6.4 for details on NESHAP removal requirements.

Note

Removal, poorly performed, may actually raise fiber levels in a building after the project is completed.

During removal of ACM, the work site must be completely isolated from the rest of the building. Ideally, removal is undertaken in unoccupied buildings, but this kind of removal may be impossible to consider for a Postal Service facility. In addition to isolating the worksite, abatement workers must take measures to reduce fiber levels during the removal operation. These measures include wetting the ACM with amended water (water and a surfactant) and filtering the air with HEPA filters. Abatement workers must wear appropriate protective clothing and respirators and must pass through decontamination chambers upon entering or exiting the worksite. Details on protective measures and work practices for removal projects can be found in Chapter 5 of the Purple Book.

ACM is usually removed by scraping it off the substrate. Vacuum systems have occasionally been used, both alone and in conjunction with manual methods. High-pressure water also has been employed to blast ACM off the substrate, with mixed results. Water under high pressure, at least several hundred pounds per square inch, can be effective in removing ACM from rough or uneven surfaces. However, this method can be dangerous for workers who are struck by the water

stream, and large amounts of water in the worksite are difficult to contain and may pose disposal problems.

Special techniques are often needed to remove amosite-containing material. Amosite is difficult to wet, even with amended water. (Some commercial surfactants are more effective than others.) Abatement workers should be protected from the resulting high levels of airborne fibers with airline respirators and a greater number of air exchanges in the work area. The air exchange rate is the contractor's responsibility, and should never be less than four complete air changes per hour.

Note

The air exchange rate is the contractor's responsibility and should never be less than four complete air changes per hour.

To clean up the worksite, all surfaces, including the plastic barriers, should be wet-wiped or vacuumed. Sometimes the cleaned substrate is first sprayed with encapsulant to bind any residual fibers. Then the air within the work area should be sampled for fibers and the worksite recleaned until a specified clearance level is met. For more information, see Chapter 6 of the Purple Book.

Removal operations are often specific to the type of application:

- Asbestos in a final plaster coat on a browncoat is the most common asbestos ceiling construction arrangement found in many buildings. A three-coat plaster system is very common — a final coat on top of a browncoat on top of a scratch coat, which is applied to metal. The least complex and inexpensive removal effort involves ceilings with smooth browncoat and soft asbestos. The asbestos is easily "skinned" from the browncoat after wetting it with amended water. If the browncoat surface is heavily abraded, the asbestos covering must be removed and the browncoat nylon brushed to remove additional material within the abrasions. If the browncoat itself contains asbestos, it requires removal or the application of encapsulants before reapplication of the final coat.
- ACM directly sprayed on wire lathes presents an expensive, time-consuming, and tedious removal task. The ceiling must be removed and the entire space above it must be decontaminated.
- Some buildings have concrete slabs sprayed with ACM for noise abatement. Because of the porous nature of concrete, it is difficult to remove all ACM. Removal of materials from concrete and cinder block foundations is also difficult. These surfaces will probably require encapsulation, after removal is complete, to bind residual fibers.
- Corrugated steel decking sprayed with ACM is sometimes found in modern buildings. In this case, ACM is especially difficult to remove. Meticulous hand cleaning with scrapers

and brushes is required for these situations, and special care must be given to seams.

- Structural steel beams sprayed with asbestos fireproofing may be found in large facilities. The ACM may have been on such structures either before or after installation of the utilities. In either case, the removal will be complex and the cost will be higher than usual.
- Asbestos-containing boiler and pipe insulation and TSI can be removed from pipe elbows, flanges, valves, and other fittings with glove bags. The abatement worker places the glove bag over a pipe section and then uses an appropriate cutting instrument to cut the insulation into manageable lengths. Asbestos is also found in valve packing and gaskets, in rope used to close gaps, in pipe sleeves, and in other openings.
- Removal of ACM from or near electrical equipment or from live steam pipes may require dry techniques. Special efforts will be needed to maintain airborne fibers at acceptably low levels (e.g., by increased air exchange rates).

7-7 Appropriate Response Actions

The management planner must select appropriate response actions based on the following:

- AHERA requirements for response actions for each category of friable ACBM (i.e., the seven categories of current conditions and potential for disturbance).
- Hazard ranking system described in 5-8.3.
- Technical suitability of the various alternatives.
- Costs of alternatives.

The response actions described here are seldom used alone but are part of a combination of corrective actions recommended for each area of ACM. For example, even if removal is urgently needed, it will normally take some time to obtain the services of a contractor. During this time, the area must be isolated from the public. Isolation, together with subsequent removal, constitutes a response action. Similarly, enclosure and encapsulation can reduce the potential for ACM disturbance in certain areas and may thus be an important part of an O&M program.

7-8 Staging and Priority of Work

Once the most appropriate response action for each area of ACM is identified, priorities for abatement and a schedule of projects must be

developed. These priorities become the management planner's recommendations to the Postal Service and constitute the main input to the O&M plan.

The management planner should consider the occupants' activity patterns, plans for building maintenance and renovation, and the areas that require immediate removal of ACM.

For example, if immediate removal of surfacing ACM is required in a wing of a building and the wing also contains piping with damaged insulation, removal of the ACM from the pipes at the same time should be considered. The additional cost of removing pipe insulation may be quite low compared to calling in a contractor in the future just to work on pipe insulation. Given the costs involved in ACM removal, combining work can result in substantial economies of scale.

No matter how carefully planners and workers conduct the project, the potential for exposing building occupants to airborne asbestos still exists. The staging plan may require evacuation and isolation of the areas before starting the work. Isolation of the area means not only closing the area to employees, occupants, and the general public but also assuring that HVAC systems in the area are isolated from the building's general system.

Abatement projects in occupied buildings are difficult and risky. To reduce the risks of accidental contamination of occupied spaces, additional barriers and protective systems should be engineered. For example, double barriers and additional air samples may be necessary. These precautions will raise the cost of the project. In staging work, the management planner should take into account the disruption of normal building activity caused by isolating the work area. Isolating one or two offices for a few weeks may have a far different impact than closing down an entire floor for several months.

Scheduling work by wing and floor would help minimize disruption. It is useful to consider scheduling work in areas that can be easily isolated in terms of HVAC systems.

Buildings with a relatively short remaining life may not be candidates for large-scale removal prior to demolition. It may be less expensive to establish a comprehensive O&M program and postpone major abatement actions until such time as a large renovation or demolition takes place.

Economies may be achieved by combining renovation activities with abatement activities. For example, installing a sprinkler system or removing a suspended ceiling during remodeling in an area with fireproofing ACM sprayed on structural beams will disturb the ACM. By combining abatement with renovation, costs of many common activities can be shared.

Alternative abatement response actions are listed in Exhibit 7-8, along with advantages and disadvantages of each abatement method.

Exhibit 7-8, Alternative Response Actions

Alternative	Advantages	Disadvantages
Long-term use of O&M plan	1. Usually provides lowest initial cost. 2. Provides good interim plan until funding becomes available. 3. May avoid need for removal until renovation or demolition. 4. Allows asbestos removal to occur over a period of years, thus spreading expenditures. 5. Can be implemented quickly.	1. Asbestos source remains. 2. Surveillance is required in occupied areas. 3. Cost of training and maintaining air monitoring surveillance may be significant. 4. Long-term life-cycle cost may be greater than removal. 5. May not be effective where control of worker and/or building occupant activities is difficult.
Encapsulation	1. Reduces asbestos fiber release from material. 2. Provides initial lower costs than removal or enclosure. 3. May not need to replace fireproofing or insulating material. 4. Provides a quick, temporary corrective action for damage to TSI on piping and associated mechanical equipment. 5. Allows opportunity for simultaneous improvement of architectural finishes on surfacing ACM.	1. Asbestos source remains and may have to be removed at a later date. May increase future removal costs. 2. Inappropriate encapsulating agent may cause asbestos material to delaminate from substrate, or may not prevent fiber release. 3. O&M plan needs to be kept active; potential for damage may still exist. 4. All preparation activities for asbestos removal need to be implemented during encapsulation.
Enclosure	1. Reduces immediate exposure. 2. Provides initial lower cost than removal. 3. May not need to replace fireproofing and insulation materials.	1. Asbestos source remains and may have to be removed at a later date. Typically increases future removal costs. 2. Maintenance to systems would require removal of enclosure, thereby exposing ACM.

Exhibit 7-8, Alternative Response Actions (continued)

Alternative	Advantages	Disadvantages
Enclosure (continued)	4. Provides a quick, temporary corrective action for damage to TSI and associated mechanical equipment.	3. O&M plan still needed unless enclosure (or encasement) is impact-proof and effectively isolates ACM. Potential for damage may still exist. 4. Fibers will be released during construction of enclosure (or spray application of encasement), and therefore enclosure requires the same preparation as that of removal and encapsulation. 5. Long-term life-cycle cost may be greater than removal.
Repair	1. Provides low initial cost. 2. May need to replace fireproofing and insulation materials. 3. Provides a quick temporary corrective action for damage to TSI and fireproofing.	1. Asbestos source remains and must be removed at a later date. 2. O&M plan still needed. Potential for damage may still exist. 3. Unless source of damage is discovered, repairs may need to be repeated.
Removal	1. Eliminates ACM. 2. Eliminates continued need for O&M plan. 3. May provide lowest life-cycle cost of the alternatives. 4. Eliminates application of AHERA regulation to Postal Service facility (if **all** ACM is removed).	1. Refireproofing or reinsulation will be needed. 2. Improper removal may increase airborne asbestos fiber concentration above ambient levels. 3. Initial cost is usually highest of all methods. 4. Building operations may have to be shut down during removal.

7-9 Implementation Requirements for Abatement and Renovation or Alteration Projects

7-9.1 Supervision

The Facilities organization and its field counterparts have the responsibility for maintenance, repair, removal, renovation, and

demolition projects involving ACBM. All such efforts may affect the safety of employees and other building occupants and must be coordinated with Human Resources and other operational functions.

Before implementing asbestos abatement projects, the installation head must ensure that all affected building occupants are notified. The installation head retains ultimate responsibility for the safety and health of employees and building occupants.

7-9.2 Abatement Projects

An independent industrial hygiene consultant firm must monitor all abatement projects. Projects must comply with the asbestos NESHAP regulations for reporting and emissions controls, OSHA standards, and guidance contained in the Purple Book. All abatement planners, project managers, contractor supervisors, on-site representatives required by the asbestos NESHAP, and abatement workers must have the appropriate AHERA-accredited training.

7-9.3 Renovation and Alteration Projects

Before renovation and alteration projects are begun, regardless of project size, asbestos records must be reviewed and, if necessary, the facility or affected area must be resurveyed for the presence of ACBM. If RACM, as defined in the asbestos NESHAP, is determined to be present, all provisions of 40 CFR 61 must be followed.

7-10 Disposal

Refer to Chapters 3 and 5 for a detailed discussion of disposal requirements under NESHAP, RCRA, CERCLA, and state regulations.

8 ACBM Postal Work Practices

8-1 Postal Work Limitations

Postal employees are limited to performing Class III and Class IV asbestos-related work as defined by OSHA. [June 2000] The Class III work is further limited in that postal employees cannot (a) undertake any project that disturbs ACBM if that project is likely to involve more than one standard glove bag (approximately 25 square feet) of asbestos material, (b) perform asbestos work that requires airtight enclosures for regulated areas, or (c) perform asbestos work that requires wearing respiratory protection devices.

[June 2000] All Class III asbestos work practices must be based on objective data that supports a NEA determination. All Class III asbestos work practices and NEA determinations must be approved by Headquarters. Class IV asbestos work practices may be approved at the area level.

[June 2000] Activities that do not require power tools and that do not create dust or friable ACBM are permitted. For example, such activities include driving a nail to hang a picture or using a screwdriver to install or remove screws.

8-2 Activity-Based Work Practice Requirements

[June 2000] The Postal Service is developing nine activity-based work practices for Class III asbestos work, which will be included in a future maintenance management order (MMO). Each work practice is identified by ASB (for asbestos) followed by a two-digit number:

- ASB25 — Drilling asbestos flooring materials.
- ASB26 — Lifting small sections of vinyl asbestos tile and scraping off mastic.
- ASB27 — Lifting small sections of asbestos asphalt plank.
- ASB28 — Drilling holes through solid or hollow walls containing asbestos plaster, asbestos stucco, asbestos paint, or asbestos drywall mud.
- ASB29 — Drilling blind holes into solid or hollow walls containing asbestos plaster, asbestos stucco, asbestos paint, or asbestos drywall mud.

- ASB30 — Drilling blind holes into solid or hollow walls containing asbestos transite®.
- ASB31 — Displacing and resetting an asbestos ceiling tile (without asbestos in the ceiling space).
- ASB32 — Punching holes in asbestos flooring materials.
- ASB33 — Using power-actuated tools to anchor fasteners into asbestos flooring (this work practice cannot be used for walls).

8-3 Postal Service-Approved Work Practices

Several asbestos-related work practices have been adopted for Postal Service use nationwide. These work practices include:

- Procedure for drilling holes in asbestos-containing flooring materials.
- Revised MMO 45-93, *Insulated Security Container Work Practices — Drilling, Preventive Maintenance, Combination Change, Lock Repair/Replace.*
- General custodial work practices and care of asbestos-containing floor material, 29 CFR 1910.1001(k).

Other approved asbestos-related work practices may be available in your postal area. Coordinate with the DAPC and AECC for a complete listing of approved work practices. All approved asbestos-related work practices, NEAs, and objective data will be placed on the environmental internal web site, as they become available.

8-4 Work Authorization Procedures

The Postal Service cannot initiate any building maintenance, equipment installation, renovation, alteration, demolition, or other project that may disturb ACBM until management is certain **either** that no ACBM is present **or** that proper asbestos control procedures will be followed in relation to ACBM that is present.

Form 8210, *Work Authorization — Asbestos*, shown in Exhibit 8-4, should be used for approval and documentation of any work in areas that contain ACBM. This form consists of three copies: the original is for the O&M plan (shown in the exhibit), copy 1 goes to the district asbestos program coordinator, and copy 2 is for district distribution. The form serves as a chronological record of work events that occur in areas where ACBM may be disturbed. Follow the instructions on the form to ensure that it accurately documents any work performed in areas that contain ACBM.

8-5 Exclusionary Work

Postal Service employees will not engage in any Class I, Class II, or Class III asbestos work (as defined by OSHA) that requires the use of respiratory protection or airtight enclosures for regulated areas.

8-6 Disposal

Refer to Chapters 3 and 5 for a detailed discussion of disposal requirements under NESHAP, RCRA, CERCLA, and state regulations.

Exhibit 8-4, Sample Work Authorization — Asbestos Form and Instructions

U.S. Postal Service

Work Authorization — Asbestos

(See Instructions on Reverse)

Required for Renovation, Alteration, Construction, Demolition, and Building Maintenance Work in Facilities with Asbestos-Containing Building Materials (ACBM) or in Facilities Where ACBM Presence Has Not Been Confirmed.

NOTE: In facilities where asbestos is present or its presence is not known, this form must be completed and submitted to the facility asbestos coordinator (FAC) for all construction and building maintenance work. An authorization must be signed before any work can proceed. Six-month blanket approvals may be issued for construction or building maintenance activities where no ACBM will be disturbed or for building maintenance activities covered by Postal Service approved work practices.

A. General Information (Completed by person responsible for proposed work)

1. Facility Finance/Sublocation No.	2. Date	3a. Facility Name
3b. Facility Address		
4a. Project Manager Name	4b. Telephone No. (Include Area Code)	4c. Project No.
5a. Contractor Name	5b. Contractor Street Address	
5c. City	5d. State	5e. ZIP Code
5f. Contractor's Rep. Name		5g. Telephone No. (Include Area Code)
6a. COR's Name		6b. Telephone No. (Include Area Code)

B. Work Description (Completed by person responsible for proposed work)

1. Location (Include building number, room number, functional area or other description)

2. Type of Work to Be Performed

3. Proposed Start Date	4. Proposed Completion Date

C. Assessment of Work (Completed by FAC or Installation Head (IH))

1. Is ACBM present in the vacinity of the proposed work?	☐ Yes (Go to C2)	☐ No (Go to F1)
2. Will ACBM be disturbed or affected by the proposed work?	☐ Yes (Go to C3)	☐ No (Go to F1)
3. Is the work to be performed by Postal Service personnel?	☐ Yes (Go to C4)	☐ No (Go to C5)
4. Is the work based on an approved Postal Service work practice?	☐ Yes (Go to D)	☐ No (Go to E)
5. Is the work to be performed by a contractor using an approved scope of work?	☐ Yes (Go to D)	☐ No (Go to E)

D. Project Contact (If completed, go to section F)

1. Name of Competent Person	2. Telephone No. (Include Area Code)

E. Work Denial

1. This Request Was Denied for the Following Reasons

2a. Printed Name	2b. Signature	
2c. Title	2d. Telephone No. (Include Area Code)	2e. Date

F. Work Authorization

Prior to authorization, the FAC or IH must review the asbestos survey, the operations and maintenance plan, section B of this form, and approved asbestos work practices.

1. Expiration Date for this Work Authorization (Not to exceed 6 months)

2a. Name of FAC or IH	2b. Signature of FAC or IH	2c. Date
3a. Name of Contracting Officer (If applicable)	3b. Signature of Contracting Officer	3c. Date

TransFORM PS Form 8210, November 1997 **Original - O&M Plan**

Exhibit 8-4, Sample Work Authorization — Asbestos Form and Instructions (continued)

General Instructions

If the facility does not contain Asbestos-Containing Building Materials (ACBM), this form is not required. Sections A and B are to be completed by the person responsible for the proposed work. Sections C through F are to be completed by the facility asbestos coordinator (FAC), the installation head (IH), or the contracting officer, as appropriate.

A. General Information

Contractor information should be completed by the contractor, the contracting officer's representative (COR), the project manager, the FAC, or the IH. The project manager is the person responsible for overseeing the project and may be the COR.

B. Work Description

1. Information on the location of proposed work must be consistent with the information contained in the operations and maintenance (O&M) plan for the affected functional area.
2. Provide narrative description of work. If Postal Service maintenance personnel are to perform the work, then specify the work practices that will be used to complete the job, for example, hole drilling, tile removal, wall board cutting, ceiling tile removal.
3. The "proposed start date" is the date work is scheduled to start.
4. The "proposed completion date" is the date that the work should be completed.

C. Assessment of Work

1. Refer to O&M plan to determine if ACBM is present and will be disturbed.
2. Review the work procedures with the contractor or the appropriate Postal Service personnel assigned to the work to determine if ACBM will be disturbed or affected.
3. Postal Service personnel are only authorized to undertake Postal Service-approved work practices.
4. Approved work practices are established by the Postal Service and are applied to Postal Service personnel for asbestos work activities.
5. If the work disturbs or affects asbestos, the services of an approved asbestos contractor must be retained using an approved scope of work.

D. Project Contact

Insert the name and telephone number of the competent person for the project. The name of the competent person may be obtained from the project manager, the FAC, or the contracting officer.

E. Work Denial

Work denials usually include, but are not limited to the following:

- Proposed disturbance of asbestos without approved work practices, an approved contractor, or authorization from a contracting officer.
- Failure to provide information on the location and type of work to be performed.

Only the FAC or IH may sign if work is denied.

F. Work Authorization

In all cases, the FAC or IH will sign the form, whether or not a contracting officer signature is required.

1. The FAC or IH signs this section if all necessary information is provided in sections A through D. Approved Postal Service work practices are authorized for up to 6 months. Maintenance staff using Postal Service-approved work practices must be trained in those work practices.
2. The contracting officer will send Form 8210, Work Authorization — Asbestos, to the FAC or IH for signature prior to the proposed start date.

TransFORM PS Form 8210, November 1997

9 Postal Service Asbestos Hazard Communication and Training Requirements

9-1 Awareness Activities

The Postal Service must exercise due diligence in complying with the requirement to inform employers and employees about the presence and location of ACM and PACM. [June 2000] Awareness training must be given in a manner that the employee is able to understand.

9-1.1 Employee Notifications

General information concerning notifications and training is contained in Chapter 6, O&M Program. This chapter contains postal-specific information.

The Postal Service, acting either as a building owner or an employer of employees, must inform all employees of the presence and location of ACM and PACM within its facilities. Personnel who perform maintenance and/or custodial work in areas containing ACM or PACM require additional notification and training. [June 2000] Warning signs and labels must also be posted.

If asbestos monitoring is performed, the results of the monitoring must be provided, in writing, to all affected employees within 15 days of receipt of the monitoring results. These written notifications either can be provided to employees individually or be posted in a location that is accessible to all affected employees. The notifications must also contain any corrective actions that will be used to prevent or control employee exposures to ACM or PACM.

9-1.2 Other Notification Requirements

The Postal Service must provide on-site contractors with the same asbestos notifications. Forms 8210 should be used to ensure that the on-site contractors perform their work properly in areas that contain ACM or PACM.

The Postal Service must also inform other building occupants of the presence and location of ACM or PACM within the facility. They must also be informed about any abatement, renovation, repair, or demolition projects that are likely to disturb ACM or PACM.

Public notifications may be required, in accordance with the provisions of CERCLA, RCRA, and NESHAP, if a fiber release episode occurs.

The lessor and any tenant with long-term maintenance responsibility for a facility must maintain records concerning the presence, location, and quantity of ACM or PACM within the facility. The records must be kept for the duration of ownership or occupancy and must be transferred to successive owners. In those situations where the Postal Service has information on asbestos in a leased facility, the information should be provided to the building owner, especially in those cases where the lessor has maintenance responsibility. The lessor should also be requested to provide to the Postal Service any information he or she may have concerning asbestos in the facility. Postal records on asbestos will be turned over to the lessor at the termination of the lease. The DAPC, DECC, or facility head should maintain asbestos information for each facility under his or her control.

9-2 Existing Postal Service Training Courses

9-2.1 [June 2000] Asbestos Management, EHS11-02 (30 Hours)

[June 2000] Contact

Information concerning this training course may be obtained from the NCED, Norman, OK, 73070-7810, phone number (405) 366-4390.

Course Description

This course provides regulatory requirements and additional technical information to effectively manage environmental concerns related to [June 2000] asbestos issues in postal facilities. The course is intended for any executive accounting system (EAS) or craft postal employee of various disciplines who may have asbestos management compliance responsibilities. The course covers the following:

- The purpose, scope, concept, and policies of the Postal Service management and control program for ACBM.
- Asbestos use and health hazards.
- Laws and regulations.
- Building inspections.
- Monitoring and sampling procedures.
- Hazard assessments.
- O&M plans.
- Control options.

The following EPA regulations are discussed:

- National Emission Standards for Hazardous Air Pollutants.
- Asbestos Hazard Emergency Response Act.
- Asbestos School Hazard Abatement Reauthorization Act.

Applicable OSHA regulations found in 29 CFR 1910 and 29 CFR 1926 are covered, including personal protective equipment requirements and accepted engineering practices and controls.

Note: Building asbestos inspectors and management planners, as defined by AHERA and ASHARA, and competent persons, as defined by OSHA 29 CFR 1926, must be certified to work with asbestos through EPA-approved state certification programs. **This course does not meet individual state certification requirements.**

Course Objectives

At the conclusion of this training program the participant will be able to:

- [June 2000]
- Describe the uses of asbestos in the construction industry.
- List the health hazards associated with exposure to asbestos.
- List Postal Service regulations on control of ACBM and asbestos exposure in vehicle maintenance facilities.
- Describe the provisions of federal regulations on asbestos.
- State the duties of an asbestos inspector.
- Describe the inspection process.
- State the duties of a management planner.
- Describe the management planning process.
- Describe available asbestos management and control options.
- List the steps necessary for effective asbestos management.

9-2.2 Asbestos Awareness, EHS11-04 (2 Hours)

[June 2000] Contact

Information concerning this training course may be obtained from the NCED, Norman, OK, 73070-7810, phone number (405) 366-4390.

Course Description

This course meets the OSHA requirements for asbestos awareness training as defined under 29 CFR 1910.1001(j)(6) and 29 CFR 1926.1101(k)(8)(vi) for maintenance and custodial personnel who work at a facility that contains asbestos. The course covers the following:

- The various forms and uses of asbestos.
- Potential health problems caused by asbestos exposure.
- Recognition of damage, deterioration, and delamination of ACM.
- Description of location of ACM at the trainee's facility (to be presented by on-site facilitator).
- Identification of the individual designated to carry out general asbestos responsibilities at that facility (to be presented by on-site facilitator).

This course is delivered via the Postal Service distance learning network.

9-2.3 Maintenance Environmental Awareness, EHS02-03 (8 Hours)

[June 2000] Contact

Information concerning this training course may be obtained from the NCED, Norman, OK, 73070-7810, phone number (405) 366-4390.

Course Description

This course provides general environmental awareness for all Postal Service maintenance craft and management employees. Eight modules cover all aspects of environmental laws and regulations applicable to Postal Service maintenance operations. The 1-hour asbestos module discusses the following:

- The various forms and uses of asbestos.
- Potential health problems associated with asbestos exposure.
- EPA, OSHA, and Postal Service regulations on the management of ACM.

9-2.4 [June 2000] Asbestos Management for Contracting Officers and Contracting Officer's Representatives, 19250-00 (8 Hours)

Contact

Information concerning this training course may be obtained from the Northeast Area's AECC, Mr. Charles Vidich, 6 Griffin Road, North Windsor, CT, 06006-7030, phone number (860) 285-7254.

Course Description

This course provides Postal Service administrative support managers, architects, engineers, facility specialists, and all others managing repair and alteration projects with the requisite skills to manage asbestos abatements. The course covers:

- Postal Service asbestos work authorization procedures.
- Asbestos contracting procedures.
- Required asbestos notifications, permits, and recordkeeping.
- Requirements established by MI EL-810-98-1.

9-2.5 [June 2000] Asbestos Operations and Maintenance Worker Courses, 19564-00 (16-Hour Initial Course) and 19560-00 (4-Hour Annual Refresher Course)

Contact

Information concerning this training course may be obtained from the Northeast Area's AECC, Mr. Charles Vidich, 6 Griffin Road, North Windsor, CT, 06006-7030, phone number (860) 285-7254.

Course Description

This course provides postal maintenance workers and maintenance supervisors with the requisite skills to work with ACBM without exceeding OSHA permissible exposure levels. The course covers:

- Proper maintenance and repair of ACBM using approved work practices.
- The use of the asbestos operations and maintenance plan.
- Health effects associated with asbestos exposures.
- Hazard communication requirements.
- OSHA and EPA regulatory requirements for notification, training, and performance of Class III asbestos work.

- Hands-on training of the approved Class III asbestos work practices.

9-2.6 [June 2000] Class III Asbestos Competent Person Course, 19565-00 (4-Hour Initial Course, 4-Hour Annual Refresher Course); Prerequisite: Courses 19564-00 and 19560-00

Contact

Information concerning this training course may be obtained from the Northeast Area's AECC, Mr. Charles Vidich, 6 Griffin Road, North Windsor, CT, 06006-7030, phone number (860) 285-7254.

Course Description

This course provides Postal Service-designated competent persons with the requisite skills to supervise asbestos operations and maintenance workers. The course covers:

- Job-related training skills for competent persons who train postal operations and maintenance workers.
- Proper maintenance and repair of ACBM using approved work practices.
- The use of the asbestos operations and maintenance plan.
- Health effects associated with asbestos exposures.
- Hazard communication requirements.
- OSHA and EPA regulatory requirements for notification, training, and performance of Class III asbestos work.
- Hands-on training of the approved Class III asbestos work practices.

9-3 Training Requirements

Sections 3-5.3 and 3-5.4 discuss AHERA and ASHARA training requirements. Postal-specific training requirements are discussed here.

9-3.1 Minimum Training Requirements

Management planners should define asbestos training requirements in the facility's asbestos O&M plan. The training provided by the Postal Service must meet the minimum OSHA requirements (see 3-3.3 for details). The following types of training, at a minimum, are required:

- Asbestos hazard communication (awareness).
- Competent person.

- Custodial personnel.
- Class III and Class IV maintenance and custodial training.
- Annual refresher training, as indicated.

The required minimum training for these categories of personnel and other Postal Service employees is provided in Exhibit 9-3.1.

Exhibit 9-3.1, Asbestos Minimum Training Requirements

OSHA Training Category (Postal Service Employees)	Asbestos Awareness Training (2 Hours)	Modified Awareness Training (30 Min.)	Supervisor Training (12 Hours)	O&M Training (16 Hours)	Inspector Training (3 Days)	Mgmt. Planner Training (2 Days)	Project Monitor Training (5 Days)
All building occupants		X					
Custodial (e.g., custodians, PS-2, 3, 4)	X						
Class III worker (e.g ., maintenance crafts PS-4, 5, 7)				*X			
Class III/IV competent persons (e.g., maintenance supervisors)			*X	X			
Class IV workers (may include custodians PS-2, 3, 4, and all craft maintenance employees)	X						
DAPCs					X	X	
Facility managers and FACs	X						
Professionals (e.g., CIHs)							X

Notes:

1. The "*X" in the rows for Class III workers and Class III/IV competent persons indicates that for facilities with intact asbestos flooring materials, the worker-level training is 8 hours, and the competent person training is 12 hours. This applies only to removal operations that do not exceed a standard glove bag (60 inches x 60 inches) of material. Removal of intact flooring above the standard glove bag limitation is Class II work.
2. All custodial personnel and Class III/IV maintenance and custodial personnel may require additional training in approved asbestos work practices.
3. All on-site contractor personnel who provide custodial services, perform Class III/IV asbestos work, or act as Class III/IV competent persons must have the appropriate training as indicated in this exhibit. On-site contractor personnel may also be required to have additional training in approved asbestos work practices.
4. All personnel who receive training from awareness level through project monitor level must be provided annual refresher training.
5. Compliance with state and local asbestos regulations may include more stringent requirements for training of personnel.
6. Other Postal Service personnel may be designated to receive the advanced levels of asbestos training based on local policy and management requirements.

9-3.2 Summary of OSHA and EPA Training Requirements

Asbestos Awareness Training (2 Hours)

The training course is applicable for custodial personnel, maintenance and custodial personnel performing Class IV asbestos work, facility managers, and the FAC. On-site contractor personnel who perform similar work must have proof of equivalent training. The training course must include the following elements:

- Information on the various forms and uses of asbestos in the facility.
- Information on the health effects of exposure to asbestos.
- Location of ACBM in the facility where the employee works.
- Recognition of deteriorating or damaged ACBM.
- The identity of the person responsible for management of ACBM.

The regulations require that a refresher course be given annually.

Class III Work Training (16 Hours)

This training is applicable for maintenance and custodial personnel who conduct activities that will result in the disturbance of ACBM and may involve removal of up to one standard glove bag (60 inches x 60 inches) of ACBM. On-site contractors who perform similar work must have proof of equivalent training. The training course must include the following elements:

- Asbestos awareness course.
- Description of proper methods to handle ACBM.
- Information on respiratory protection.
- The applicable provisions of the AHERA rule.
- Hands-on training in the use of protective equipment and work practices.

The regulations require that a refresher course be given annually.

Class III/IV Competent Person Training (16 Hours)

This training is provided for personnel who supervise Class III and IV asbestos work. Although the training period is the same as for a Class III asbestos worker, OSHA believes that the “competency” of this person is independent of the training required. Thus the competent person has a specified level of training and also must have a high level

of knowledge of worksite safety and health issues. The competent person must be able to identify existing and predictable hazards that are hazardous to employees and must have the authorization to take prompt corrective measures to eliminate the recognized hazards. In addition, the employer must designate the competent person. Annual refresher training is required.

On-site contractor personnel who serve as competent persons for Class III and IV asbestos work must have proof of equivalent training and experience.

The Postal Service establishes the following requirements for Class III/IV competent persons:

- They will receive 16 hours of O&M training.
- They must have at least 6 months of experience in asbestos control (for the first year following publication of MI EL-810-98-1, this requirement is waived providing the person has other safety-related supervisory experience or training, such as completion of a safety training course for maintenance supervisors).
- They will have the authority to ensure that asbestos-related tasks are performed safely.
- They will receive annual refresher training.

DAPC-Level Training (40 Hours)

The DAPC level of training must include the following elements:

- A 3-day inspector training course in accordance with 40 CFR Part 763.
- A 2-day management planner course in accordance with 40 CFR Part 763.
- An annual refresher course, as required.

Professional Training, Certified Industrial Hygienist (40 Hours)

The professional level of training for the CIHs should include the 5-day project monitor course as defined in 40 CFR Part 763. Annual refresher training is required.

All Building Occupant Training (30 Minutes)

All building occupants of Postal Service facilities should participate in a modified asbestos awareness level of training. The elements of this training course may include:

- Use of the Postal Service videotape *Asbestos and the U.S. Postal Worker*.
- Notification of locations of ACBM within the facility.
- Notification of planned construction, renovation, alteration, or repair projects that may disturb ACBM.
- Identification, location, and telephone number of the ACBM manager of the facility.

9-4 Sign and Label Deployment

9-4.1 Presentation of Service Talk

The inspection and labeling team contacts the facility contact before beginning the labeling effort so that the facility contact can make preparations for the service talk. The facility contact schedules a time when as many employees as possible can attend. The facility provides a location in the building for the service talk.

The team member designated to perform labeling at each facility presents the service talk. The service talk should last no longer than 15 minutes and should include a question and answer period. The service talk must include the following elements:

- A reading of the *Points for a Service Talk Prior to Installation of Asbestos Signs* document prepared by the Postal Service. This presentation should take no longer than 5 minutes.
- A description of the materials that will be labeled in the facility. This presentation must include a display of the different types of labels and signs that will be placed throughout the facility.
- A question and answer session specifically addressing the labels and signs to be posted in the facility.

9-4.2 Sign and Label Deployment Procedures

The following discusses the procedures that should be followed when using the asbestos warning sign and labels at facilities. The sign and labels and accompanying procedures have been developed by the Postal Service and are based on the requirements set by OSHA in 29

CFR 1910.1001. The sign is shown in Exhibit 9-4.2a, and the labels are illustrated in Exhibits 9-4.2b and 9-4.2c. Consult with the DECC or AECC for procurement of the asbestos warning sign and labels.

Deployment of Sign and Labels

The 8-inch by 10-inch sign is designed to be deployed in custodial areas, on or near employee bulletin boards, and in facility manager's offices or other areas where contractors and off-site workers report for duty. The decision regarding where to place the sign is performance-based except in the case of mechanical rooms or areas where asbestos-containing TSI and/or surfacing materials are located (reference: 29 CFR 1910.1001(j)(3)(v)).

The notice sign must be visible to personnel in the designated areas where the sign is placed. To accomplish this, the sign must be posted on a column or wall immediately in front of the entrance to the room or must be hung from the ceiling no lower than 6 feet plus 6 inches above the floor. In general, the sign should be no farther away than 10 feet from the entrance and must face the door.

Color-coded warning labels are designed to be used on all types of ACM. The labels are a blue "A" symbol on a yellow background with a blue border. The 4-inch round label (see Exhibit 9-4.2b) should be used on all asbestos-containing floors, especially where there may be equipment or personnel traffic. The regular (4-inch square) label (see Exhibit 9-4.2c) may be used in all other areas.

Labels must be posted on asbestos-containing TSI or sprayed-on and troweled-on surfacing materials located above suspended ceiling tiles. **Note:** If suspended ceiling tile contains asbestos, it is recommended that the tiles not be disturbed to label any ACBM above the tiles.

Color-coded warning labels (the "A" symbol) must be posted so that it is clear which materials are asbestos-containing, and must be clearly visible to anyone who might disturb the material. The following are the requirements for posting of the labels:

- A minimum of one label per 20 linear feet of TSI must be posted. The labels must be clearly visible and indicate which pipe lines are asbestos-containing (e.g., steam, domestic, and supply/return lines must be labeled separately and do not count as one line).
- A minimum of one label must be posted in each room (up to 50,000 square feet) with asbestos-containing floor or ceiling tile. The label must be placed on the tile in a corner of the room. For rooms over 50,000 square feet, two labels must be posted in opposite corners of the room.

- A minimum of one label must be posted in each room (up to 50,000 square feet) with asbestos-containing wall and/or ceiling plaster. The label must be placed on the wall and/or ceiling in the corner of the room. For rooms over 50,000 square feet, two labels must be posted in opposite corners of the room.

Asbestos-containing TSI such as boiler, duct, and tank insulation must have a minimum of three labels per component (or one label per side, whichever is greater).

Sign and Label Material and Installation Requirements

Signs and labels should be installed as follows:

- The sign contains pressure-sensitive vinyl adhesive, but it is recommended that the installer place at least two strips of clear packing tape over each sign (one on the top and one on the bottom) to ensure adhesion to the surface. The sign can also be attached to a paperboard or some other rigid backing and hung in place if it is not feasible to adhere the sign to a surface.
- The color-coded warning labels (the “A” symbol) are adhesive. Peel the adhesive backing off of the label and firmly affix it to the surface. As a precaution against removal, it is recommended that the installer place clear packing tape over the entire label. The labels should only be placed on intact sections of the ACM. Do not affix tape over the round floor labels because of its nonskid surface.

Exhibit 9-4.2a, 8-inch by 10-inch Notice Sign

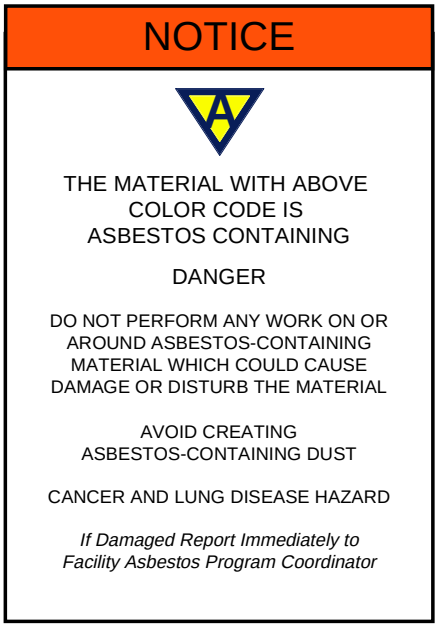
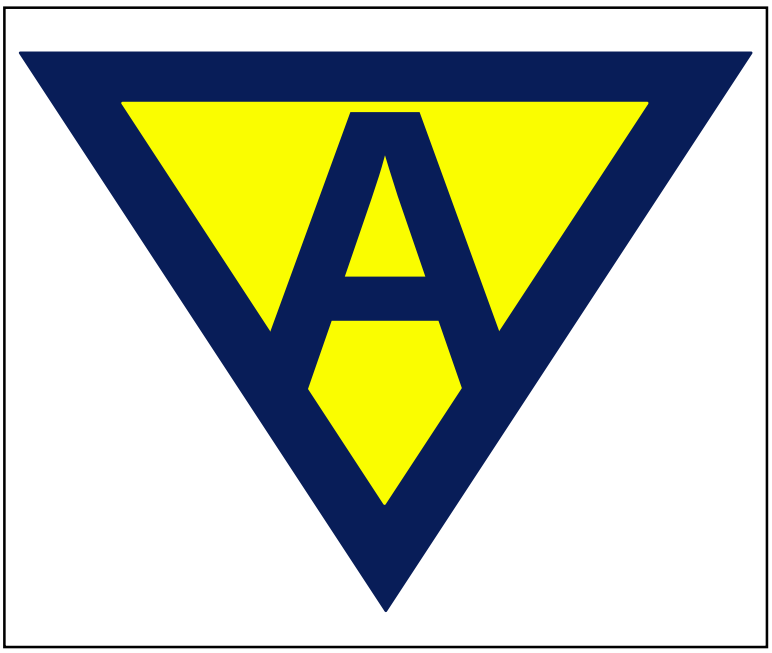


Exhibit 9-4.2b, 4-inch Round Color-Coded “A” Label

Exhibit 9-4.2c, 4-inch Square Color-Coded “A” Label



9-4.3 Service Talk

The service talk given before asbestos signs are installed should include the following areas of discussion:

Why are asbestos signs and labels being installed?

> As of October 1, 1995, OSHA requires the posting of signs in postal facilities that contain ACM. It is the employee's responsibility to be aware of signs that identify asbestos and to report any disturbance of these materials to the facility manager or facility asbestos program coordinator.

Why does OSHA require signs?

> OSHA's regulations require employers to communicate workplace hazards to affected employees. OSHA has identified custodians, maintenance workers, and contract custodial cleaners as the key employees affected by asbestos. Other employees, such as carriers and clerks, do not require in-depth training concerning asbestos work practices but need to know not to disturb materials that have been identified as having asbestos.

Why do the signs state that hazards exist?

> The signs emphasize the need to take proper precautions when working with asbestos. OSHA has identified appropriate work practices that must be used to safeguard employee health. These signs serve as a reminder that asbestos is present and is to be managed properly in accordance with the O&M plan that has recently been developed for this facility. It is important to recognize that employees are not exposed to any danger simply by working in a facility where asbestos exists. If the asbestos materials are left undisturbed, they are perfectly acceptable and require no special health precautions. Asbestos must be damaged and fibers released and inhaled before a health risk arises. (An ounce of prevention is worth a pound of cure.) Employees should pay attention to where the signs and labels have been placed in the facility. They should also notify the facility manager if they see any damage to materials that have been labeled as ACM.

What is my role?

The role of employees is to be aware of where signs and labels have been installed and to avoid disturbing those materials that have been posted. Materials that have labels with the big blue "A," such as piping, are not to be touched or contacted. These materials can be pulverized by hand pressure and could release asbestos fibers if disturbed. If employees notice any damage to the materials with these labels, they should contact the facility manager, who will take the necessary action to fix the problem.

Why is the Postal Service putting up signs now if we have had asbestos for some time?

The Postal Service is in the process of identifying all of the ACM in its facilities. All ACM will be identified and appropriate signs installed after the surveys have been completed.

9-5 Local Training Guidance

Insert your local training guidance here.

10 Recordkeeping Requirements

10-1 Levels of Records

For general AHERA requirements on recordkeeping, see 5-7.4. For EPA requirements, see 6-2.5. Postal-specific requirements are covered below.

10-1.1 Facility Level

Asbestos survey reports, asbestos abatement documentation, O&M plans, training certifications, and other appropriate asbestos-related documents are treated as accountable records. The FAC maintains the original records at the facility and must transfer them to any subsequent owner of the facility. When the ACBM has been removed from the facility, all asbestos O&M program files and abatement case files are forwarded to the Federal Records Center and retained for 30 years.

10-1.2 District Level

Records necessary for the administration of the district asbestos control program, including records related to annual budget requests for asbestos-related activities, are maintained by the DAPC.

10-1.3 Area Level

AECCs and area human resource analysts (S&H) must establish asbestos control program recordkeeping and analysis programs sufficient to track implementation, budget requirements and expenditures, and other related program needs. The EMIS database will assist in this effort.

10-2 Medical Records

The medical personnel responsible for the facility (e.g., nurse administrator, staff nurse, contractor) maintain the medical records, and the facility must keep exposure data, exposure monitoring data, and other medical information pertinent to individual employees in accordance with 29 CFR 1910.20. The Postal Service ensures that these asbestos-related employee medical records are maintained for the duration of the employee’s employment plus 30 years.

10-3 Training Records

The NCED tracks all asbestos-related training and must retain asbestos training records, except for those records maintained by the FAC. The minimum required training as described in Chapter 9 forms the basis for the initiation and retention of all asbestos training records.

10-4 Corporate Recordkeeping Systems

Information regarding the maintenance and disposition of asbestos-related records may be obtained through the use of two corporate data bases:

- The Records and Information Management System (RIMS), which is maintained by Finance at Headquarters.
- The Environmental Recordkeeping Compliance System (ERCS), which is maintained by Environmental Management Policy at Headquarters.

RIMS contains information relating to the maintenance and disposition of Postal Service records for which official retention periods have been established. RIMS is used to prepare AS-305, *Records Control Handbook*, and is the mechanism for adding and updating official records retention schedules. The records handling information contained in RIMS has been cleared by all affected Headquarters functional organizations, including General Counsel and the Inspection Service, and provides postal policy regarding records contained in the system. Access to RIMS data may be obtained by contacting the records specialist in Post Office Accounting, Finance, until the fall of 1998, when the data will become retrievable through the Finance internal web site.

ERCS contains information related to recordkeeping requirements incorporated in federal and state environmental regulations. ERCS organizes the recordkeeping requirements for ten environmental areas such as asbestos, air, water, and hazardous waste. The requirements are retrievable by state, by Postal Service area, nationwide, and by topic. ERCS provides information on program summaries, topic summaries, and specific citations for the applicable regulations and retention periods for required records. ERCS will be cross-referenced to RIMS for Postal Service records-handling policies. The cited Postal Service policies originate from those procedures developed and cleared through RIMS. ERCS was implemented in the summer of 1997. Access to ERCS data may be obtained through the internal environmental web site, and information may be downloaded to personal computers.

11 Fiber Release Episode Response

11-1 Internal Fiber Release Episode Response

The Green Book procedures for fiber release episode responses were covered in 6-2.4. This chapter explains Postal Service-specific procedures for internal and external fiber release episodes.

11-1.1 Medical Surveillance and Documentation of Potential Asbestos Exposures

The memorandum dated May 30, 1995, *Asbestos: Medical Surveillance and Documentation of Potential Exposures*, clarifies existing regulations for medical surveillance concerning asbestos exposure and provides guidance on documenting potential past exposures to asbestos and potential exposures from inadvertent fiber release episodes from renovation, alteration, or removal projects, as well as from other sources. Also refer to the text of the OSHA standards, 29 CFR 1910.1001 and 1926.1101, and the December 1994 memorandum, signed by Larry Anderson, about the new OSHA standards for definitions and other requirements.

11-1.2 OSHA Requirements for Medical Surveillance

Asbestos General Industry Standard (29 CFR 1910.1001)

This OSHA standard applies to employees working routinely with asbestos that is not construction related, principally brake work in vehicle maintenance facilities (VMFs). Any employee exposed to asbestos fibers at or above the PEL or EL must receive medical surveillance as long as that job is performed and asbestos is present. Given the reduction in use of asbestos brake linings and the adequacy of postal control measures (vacuums, etc.), this requirement affects few, if any, VMF postal employees.

Custodial work (e.g., polishing VAT) is covered under 29 CFR 1910.1001, but reliable data indicates that such activities, done properly, do not release asbestos that exceed the PEL or EL, so medical surveillance is not required.

Asbestos Construction Standard (29 CFR 1926.1101)

Medical surveillance must be provided for employees who, for more than 30 days a year, engage in Class I, II, or III work; employees exposed above the PEL or EL; or employees who wear negative-pressure respirators when working with ACM or PACM. Postal employees, by policy, only engage in limited Class III work — lifting and drilling asbestos flooring. These employees must receive medical surveillance (paragraph M of the standard). Some employees may perform Class IV custodial tasks consisting of vacuuming (with a HEPA vacuum) areas, such as mechanical rooms, that may contain ACM or PACM. OSHA has stated that when ACM is maintained in good condition and direct contact does not disturb the material, it is unlikely that the PEL or EL will be exceeded. If a competent person cannot perform an NEA in relation to Class IV tasks, however, air monitoring may be necessary to document employee exposures and whether or not medical surveillance is needed.

11-1.3 Documenting Potential Exposures

Safety and health personnel should work closely with servicing medical personnel, nurse administrators, and others responsible for employee medical records to document required medical surveillance or to record fiber release episodes or past work with ACM. As inspections proceed, O&M programs are implemented, and employees are trained, the need for these activities should be reduced so that only the trained employees who are drilling holes, etc., may need medical surveillance.

Fiber Release Episodes

According to postal policy, postal facilities must have O&M programs in place when PACM and ACM are identified and cannot begin renovation, alteration, or any other project until the area has been inspected for ACM. In theory, these policies should prevent exposures. However, in reality, fiber release episodes (ACMs are intentionally or unintentionally disturbed, as defined by OSHA) have occurred in the past and may occur in the future until the ACBM control program is fully implemented.

When employees or employee representatives inquire about or request medical surveillance related to a possible exposure to asbestos, the Postal Service is obligated to respond. If fiber is released, under OSHA regulations, medical surveillance is required only when the PEL or EL is exceeded. OSHA states in the preamble to the standard that “OSHA has attempted to assure that those workers for whom medical surveillance will provide relevant information and benefit are entitled to it.” According to OSHA, one-time incidental exposures below the PEL or EL do not justify medical surveillance because it does not benefit the

employee. Some experts argue that the X-rays associated with surveillance are themselves not without risk.

In most inadvertent fiber release episodes, air sampling data that indicate whether concentrations exceeded the PEL or EL when the ACM was disturbed are unavailable. In the past, postal policy has been to evaluate the need for medical surveillance on a case-by-case basis. This policy has not changed, but a need to provide guidance and uniformity on such evaluations has become evident from employee, union, and field management requests for guidance.

Following an inadvertent fiber release episode, S&H personnel must rely on experts to determine if excessive concentrations of fibers have been released. Facts to be considered include, at a minimum, the following:

- Amount of material disturbed.
- Condition of the material, e.g., friable sprayed-on versus VAT.
- Results of wipe samples and subsequent air samples.
- Descriptions of work practices and conditions during the disturbance.

The facility should consult a CIH familiar with asbestos activities who will determine if the PEL or EL has been exceeded. This practice ensures the involvement of a professional familiar with evaluating occupational hazards. If the CIH makes a positive finding, S&H personnel must identify employees who may have been exposed above the PEL or EL and offer medical surveillance. If an employee declines, management should offer to record the potential exposure (see below).

When the CIH believes that exposure has been negligible or below the PEL or EL, management should offer to record the incident and the potential for asbestos exposure in the employee's medical folder. The information should include, but not be limited to, a description of the incident, including date, time, location, and material involved; other pertinent data noted above; and the CIH's findings.

The CIH or postal medical personnel should explain the regulations and the rationale for conducting or not conducting medical surveillance related to the incident to employees and their representatives.

Inquiries Regarding Past Occupational Exposures

For 15 years, postal policy has prohibited postal employees from working with ACM if asbestos fibers might be released. However, as buildings are inspected and employees trained, concerns may arise

among some employees, principally maintenance workers, about past exposures. Examples may include employees who removed pipe-lagging and disturbed or removed ceiling tiles or other ACM not identified at that time.

Although past exposures cannot be created, they might be estimated in retrospect to determine if medical surveillance would benefit the employee. Information on work locations, tasks performed, condition of the ACM at the time, duration of tasks, etc., could be collected and compared to known typical exposures such as those documented in the preamble to the asbestos standard. The facility should seek an expert opinion (CIH) if it suspects that significant, medical surveillance is not required or would not benefit the employee. In such cases, an employee's past work with ACM can be documented in his or her medical folder as outlined above. The mere presence of ACM in a building presents little or no risk to building occupants (per EPA and OSHA), and medical surveillance of occupants is not beneficial.

Contacts

Field safety personnel and district environmental coordinators should be informed regarding the regulatory requirements and guidance in the memorandum dated May 30, 1995 (see 11-1.1 [June 2000] and 12-1n). Direct questions regarding OSHA standards and related topics to Frank Lundblad, Postal Service Industrial Hygienist, at (202) 268-3692. Questions regarding medical matters should be directed to area medical directors or Dr. David Reid, the National Medical Director.

11-2 External Fiber Release Episode Response

External fiber release episodes may be regulated under NESHAP, RCRA, or CERCLA. For information on external air release episodes, refer to the NESHAP demolition decision tree and discussion in section 3-8. If reportable quantities of asbestos are released to surface waters or soils, appropriate federal and state agencies must be notified, as required, under CERCLA and RCRA. Remediation efforts may be required and assistance obtained from a qualified hazardous waste consultant or contractor.

11-3 Response to Disturbances of ACBM or PACM

If ACBM or PACM is disturbed by natural disasters (e.g., flooding, leaking roof), unauthorized work, or inadvertent contact (e.g., hit by forklift), safety personnel must decide whether trained postal employees can clean up the debris or accredited contract responders must be used. In making this decision, they should consult with the FAC, DAPC, safety personnel, and the local competent person and consider all relevant local factors. Safety personnel must also decide if

a significant release of asbestos fibers occurred during the disturbance and if postal personnel were exposed. The guidelines found in the discussion about internal fiber release episodes can be used for this evaluation.

Use the process flowchart shown in Exhibit 11-3 to determine who may clean up ACBM or PACM debris.

Exhibit 11-3, Process Flowchart for ACBM or PACM Debris Cleanup (Page 1)

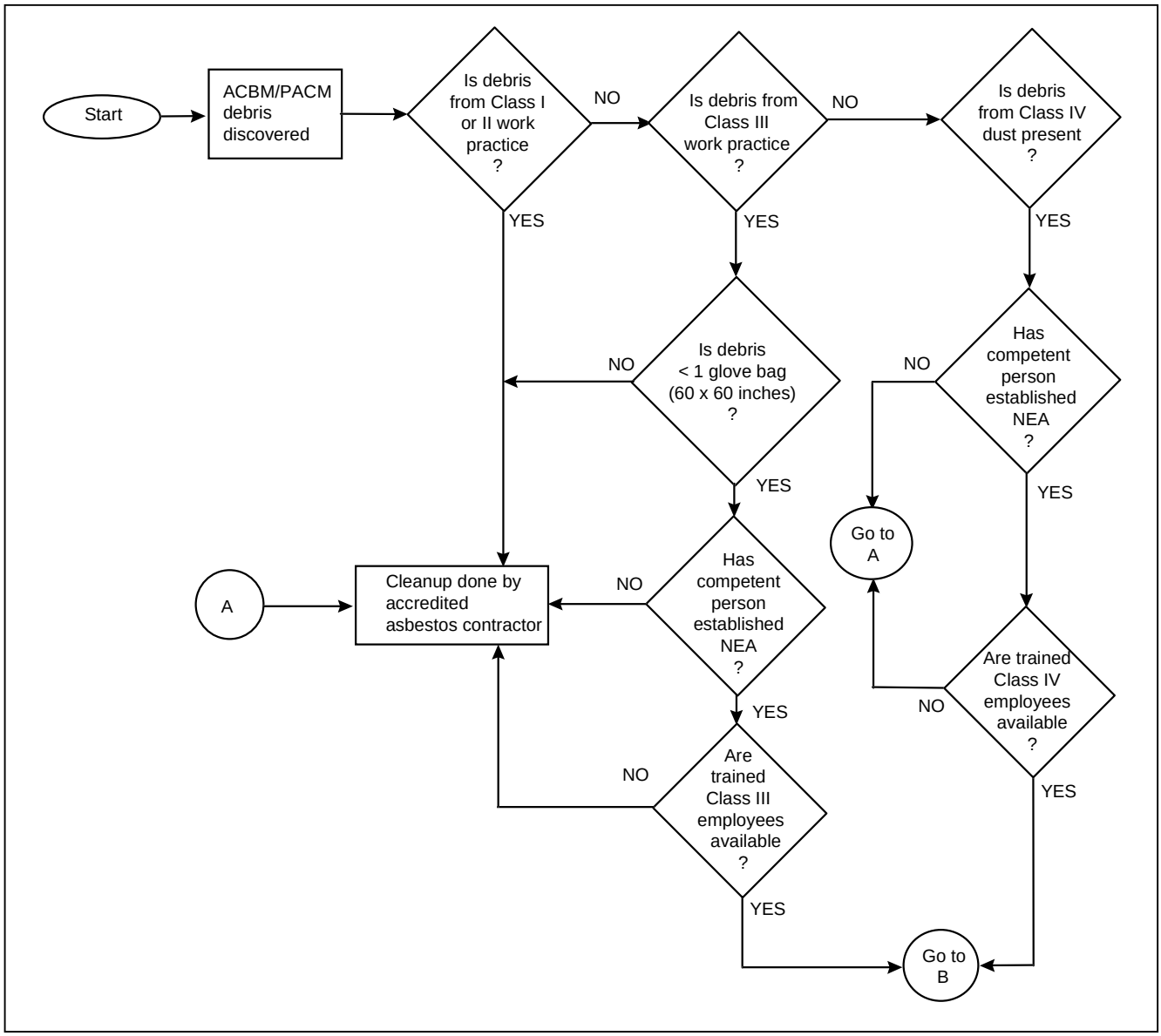
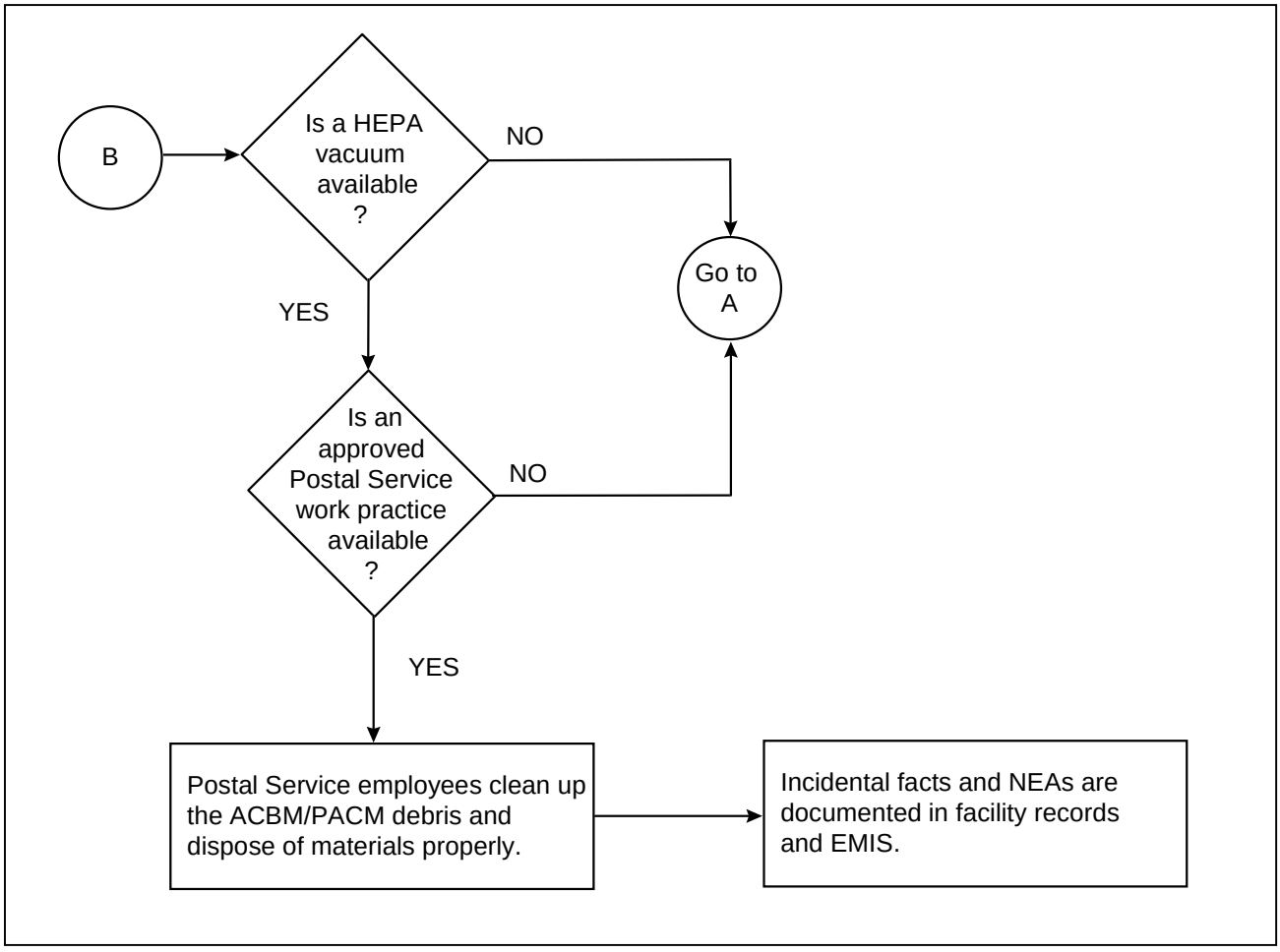


Exhibit 11-3, Process Flowchart for ACBM or PACM Debris Cleanup (Page 2)



12 Collection of Resources

To access these references in the Postal Service's internal web site, use *http://blue.usps.gov/environmental.* [June 2000] Then click on the menu choice entitled "Target Areas" on the left, and then choose "Asbestos." These references can be found in the "Asbestos Handbook Collection of Resources" section.

12-1 Postal Service Materials

The following references must be maintained at the DAPC level:

a. MI EL-810-98-1, *Asbestos-Containing Building Materials Control Program.*

b. MI EL-830-95-2, *Control of Asbestos Exposure From Brake and Clutch Repair and Service.*

c. Maintenance Management Orders:

   (1) MMO-045-93, *Asbestos Control.*

   (2) MMO-005-94, *Security Technicians Network (STN) Up-Date.*

   (3) MMO-59-88, *Anti-Intrusion Devices of Safes and Vaults.*

   (4) MMO-33-76, *Disposal of Irreparable Security Containers and Security Chests.*

d. Asbestos-related statement of work.

e. Case studies — success stories in asbestos management.

f. Microsoft PowerPoint slide presentation on asbestos management and *CustomerPerfect!* goals.

g. Model Asbestos Operations and Maintenance Plan.

h. Negative exposure assessments, objective data, and work practices.

i. OSHA asbestos standards — signs and labels — revised Northeast Area document.

j. Specialized equipment for use in asbestos work.

k. Standard letters for asbestos notifications.

l. Standup presentations and risk communication techniques.

m. Tutorials for use of FMSWIN, EMIS, and the Postal Service postal routed network.

n. Postal Service asbestos policy memoranda:

(1) [June 2000] May 11, 1995, *Assessing Asbestos-Containing Materials and Air Monitoring.*

(2) [June 2000] May 30, 1995, *Asbestos: Medical Surveillance and Documentation of Potential Exposures.*

o. Postal Service generic area asbestos management action program.

p. Postal Service-required NEAs (APC list).

12-2 Federal and Other Guidance Documents

The following references must be maintained at the DAPC level:

a. *Asbestos in Buildings: Simplified Sample Scheme for Friable Surfacing Materials* (EPA Pink Book).

b. *Guidance for Controlling Asbestos-Containing Materials in Buildings* (EPA Purple Book).

c. *Managing Asbestos In Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials* (EPA Green Book).

d. National Institute of Building Sciences asbestos work practice excerpts.

12-3 Regulatory and Other References

The following references are useful but are not required to be maintained at the DAPC level:

a. 29 CFR Part 1910.1001, Asbestos — General Industry Standard.

b. 29 CFR Part 1926.1101, Asbestos — Construction Standard, [June 2000] August 10, 1994.

c. [June 2000] 29 CFR 1926.1101, Asbestos — Construction Standard, final rule, amendments, September 29,1995, Subject: "Alternative Methods of Compliance for Installation, Removal, Repair, and Maintenance of Certain Roofing and Pipeline Coating Materials."

d. [June 2000] OSHA Hazard Information Bulletin, October 8, 1998, Subject: "Potential Asbestos Contamination in Soft Concrete."

e. 29 CFR Part 61, Subpart M, Asbestos — NESHAP.

f. 40 CFR, RCRA, Subchapter I — Solid Wastes, Part 241 — Guidelines for the Land Disposal of Solid Wastes.

g. 40 CFR Part 302 — Designation, Reportable Quantities, and Notification Requirements for Hazardous Substances Under CERCLA, or Superfund.

h. 29 CFR Part 763 — Asbestos Hazard Emergency Response Act (AHERA).

i. *Commonly Asked Questions About the New AHERA Asbestos-in-Schools Rule.*

j. *Asbestos in Schools: Evaluation of the AHERA: A Fact Sheet.*

k. *Answers to the Most Frequently Asked Questions About Reinspections — Under the AHERA Asbestos-in-Schools Rule.*

l. ASTM Standard D 5755-95, *Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Structure Number Concentrations.*

m. ASTM Standard D 5756-95, *Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscopy for Asbestos Mass Concentration.*

n. ASTM Standard E 1368-90, *Standard Practice for Visual Inspection of Asbestos Abatement Projects.*

o. ASTM Standard E 1494-92, *Standard Practice for Encapsulants for Spray- or Trowel-Applied Friable Asbestos-Containing Building Materials.*

p. EPA A-107/86-002, *Asbestos Fact Book.*

q. EPA 340/1-90-019, *Asbestos NESHAP Adequately Wet Guidance.*

r. EPA 560/4-91-012, *Asbestos in Schools: Evaluation of the AHERA: Summary Report.*

s. EPA 560/5-85-018, *Asbestos in Buildings: Guidance for Service and Maintenance Personnel.*

t. EPA 560-OPTS-86-0, *Controlling Brake Dust to Protect Your Health: What Every Auto Mechanic Should Know.*

u. EPA 560-OPTS-86-0, *Guidance for Preventing Asbestos Disease Among Auto Mechanics* (EPA Gold Book).

v. EPA 600/R-93/116, *Test Method: Method for the Determination of Asbestos in Bulk Building Samples.*

w. EPA 600/S4-82-021, *Bulk Sample Analysis for Asbestos Content: Evaluation of the Tentative Method.*

x. EPA 700/B-92/001, *A Guide to Performing Reinspections Under the AHERA.*

y. *Interim Guidance on ASHARA Requirements.*

z. Public Law 101–637, Asbestos School Hazard Abatement Reauthorization Act of 1990 (ASHARA).

aa. *Recommended Interim Guidance for Maintenance of Asbestos-Containing Floor Coverings.*

bb. *Summary of Regulations Published Under the Toxic Substances Control Act (TSCA).*

cc. Toxics Information Series — Asbestos.

A State Regulatory Information

This appendix provides information concerning state-level authority for various asbestos regulatory areas. Please note that California is the only state that regulates asbestos as a hazardous waste. If a state, commonwealth, or trust territory is not referenced, assume that regulatory authority for asbestos-related issues is at the federal level. Likewise, if there is no entry in the RCRA, OSHA, or AHERA/ASHARA column for a state, assume that regulatory authority is at the federal level.

	RCRA		OSHA	AHERA/ASHARA	
State	**Primacy for Basic RCRA Program**	**Asbestos Regulated as a Hazardous Waste**	**Approved OSHA Plan**	**Primacy for AHERA Training**	**Primacy for ASHARA Training**
Alabama	✓			✓	
Alaska			✓	✓	
Arizona	✓		✓		
Arkansas	✓			✓	
California	✓	✓ (Title 22, Sec. 66261.24)	✓		
Colorado	✓			✓	✓
Connecticut	✓		✓	✓	✓
Delaware	✓			✓	✓
Florida	✓			✓	✓
Georgia	✓				
Hawaii			✓		
Idaho	✓			✓	
Illinois	✓	Special Waste		✓	✓
Indiana	✓		✓	✓	✓
Iowa			✓	✓	
Kansas	✓			✓	
Kentucky	✓		✓		
Louisiana	✓			✓	✓
Maine	✓			✓	✓
Maryland	✓		✓	✓	
Massachusetts	✓			✓	✓

State	RCRA		OSHA	AHERA/ASHARA	
	Primacy for Basic RCRA Program	Asbestos Regulated as a Hazardous Waste	Approved OSHA Plan	Primacy for AHERA Training	Primacy for ASHARA Training
Michigan	✓		✓	✓	✓
Minnesota	✓		✓	✓	
Mississippi	✓			✓	✓
Missouri	✓				✓
Montana	✓			✓	✓
Nebraska	✓			✓	
Nevada	✓		✓	✓	
New Hampshire	✓			✓	✓
New Jersey	✓			✓	✓
New Mexico	✓		✓		
New York	✓		✓	✓	
North Carolina	✓		✓	✓	✓
North Dakota	✓			✓	✓
Ohio	✓			✓	
Oklahoma	✓				
Oregon	✓		✓	✓	✓
Pennsylvania	✓			✓	✓
Rhode Island	✓			✓	✓
South Carolina	✓		✓		
South Dakota	✓			✓	✓
Tennessee	✓		✓		
Texas	✓			✓	
Utah	✓		✓	✓	✓
Vermont	✓		✓	✓	✓
Virginia	✓		✓	✓	✓
Washington	✓		✓	✓	✓
West Virginia	✓			✓	
Wisconsin	✓			✓	✓
Wyoming	✓		✓		

B EPA Regional Asbestos Coordinators and State Agency Contacts

Source: *EPA's National Directory of AHERA Accredited Courses*, May 31, 1995 Edition.

B-1 EPA Regional Asbestos Coordinators

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AHERA Approval
Abatement Worker (full from 11/13/90 to 10/4/94)
Contractor/Supervisor (full from 11/13/90 to 10/4/94)
Inspector (full from 11/13/90 to 10/4/94)
Management Planner (full from 11/13/90 to 10/4/94)
Project Designer (full from 11/13/90 to 10/4/94)

ALASKA

DWAYNE HOUCK
ALASKA DEPARTMENT OF LABOR
DIVISION OF LABOR STANDARDS AND SAFETY
PO BOX 107022
ANCHORAGE AK 99510-7022
(907) 269-4957
IN ALASKA (800) 770-4940

AHERA Approval
Abatement Worker (interim from 10/1/85 to 1/29/90)
Abatement Worker (full from 1/29/90 to 10/4/94)
Contractor/Supervisor (interim from 10/1/85 to 1/29/90)
Contractor/Supervisor (full from 1/29/90 to 10/4/94)

ARKANSAS

JEFF PURTLE
ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE
PO BOX 8913
LITTLE ROCK AR 72219-8913
(501) 562-7444

AHERA Approval
Abatement Worker (interim from 11/22/85 to 1/22/88)
Abatement Worker (full from 1/22/88 to 10/4/94)
Contractor/Supervisor (interim from 11/22/85 to 1/22/88)
Contractor/Supervisor (full from 1/22/88 to 10/4/94)

COLORADO

THOMAS M TAYON
COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT
APCD-SS-B1
4300 CHERRY CREEK DRIVE SOUTH
DENVER CO 80222-1530
(303) 692-3185

AHERA Approval
Abatement Worker (full from 7/8/89 to 10/4/94)
Contractor/Supervisor (full from 7/8/89 to 10/4/94)
Inspector (full from 7/8/89 to 10/4/94)
Management Planner (full from 7/8/89 to 10/4/94)
Project Designer (full from 7/8/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 1/1096)
Contractor/Supervisor (full from 1/1096)
Inspector (full from 1/1096)
Management Planner (full from 1/1096)
Project Designer (full from 1/1096)

CONNECTICUT

RICHARD J LAIUPPA
CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
INDOOR AIR AND ASBESTOS AND RADON
450 CAPITOL AVE MS 51 AIR
PO BOX 340308
HARTFORD CT 06134-0308
(860) 509-7367

AHERA Approval
Abatement Worker (full from 4/25/91 to 10/4/94)
Contractor/Supervisor (full from 4/25/91 to 10/4/94)
Inspector (full from 4/25/91 to 10/4/94)
Management Planner (full from 4/25/91 to 10/4/94)
Project Designer (full from 4/25/91 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/3/95)
Contractor/Supervisor (full from 7/3/95)
Inspector (full from 7/3/95)
Management Planner (full from 7/3/95)
Project Designer (full from 7/3/95)

DELAWARE

ROBERT FOSTER
DELAWARE DEPARTMENT OF ADMINISTRATIVE SERVICES
PO BOX 1401
O'NEILL BUILDING
DOVER DE 19903
(302) 739-3930

AHERA Approval
Abatement Worker (full from 8/14/89 to 10/4/94)
Contractor/Supervisor (full from 8/14/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 9/22/94)
Contractor/Supervisor (full from 9/22/94)
Inspector (full from 8/10/94)
Management Planner (full from 12/7/94)
Project Designer (full from 12/7/94)

FLORIDA

JUANITA CHASTAIN
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0750
(904) 921-6347

AHERA Approval
Abatement Worker (full from 4/10/91 to 10/4/94)
Contractor/Supervisor (full from 4/10/91 to 10/4/94)
Inspector (full from 4/10/91 to 10/4/94)
Management Planner (full from 4/10/91 to 10/4/94)
Project Designer (full from 4/10/94 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 11/8/94)
Contractor/Supervisor (full from 11/8/94)
Inspector (full from 11/8/94)
Management Planner (full from 11/8/94)

IDAHO

GARY BARNES
IDAHO DIVISION OF BUILDING SAFETY
PO BOX 83720
BOISE ID 83720-0060
(208) 334-3896

AHERA Approval
Abatement Worker (full from 3/26/91 to 10/4/94)
Contractor/Supervisor (full from 3/26/91 to 10/4/94)
Inspector (full from 3/26/91 to 10/4/94)
Management Planner (full from 3/26/91 to 10/4/94)
Project Designer (full from 3/26/91 to 10/4/94)

ILLINOIS

R KENT COOK
ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 WEST JEFFERSON STREET
SPRINGFIELD IL 62761
(217) 782-3517

AHERA Approval
Abatement Worker (full from 3/13/90 to 10/4/94)
Contractor/Supervisor (full from 3/13/90 to 10/4/94)
Inspector (full from 3/13/90 to 10/4/94)
Management Planner (full from 3/13/90 to 10/4/94)
Project Designer (full from 3/13/90 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/14/95)
Contractor/Supervisor (full from 7/14/95)
Inspector (full from 7/14/95)
Management Planner (full from 7/14/95)
Project Designer (full from 7/14/95)

INDIANA

DAVID K WHITE
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
100 NORTH SENATE AVENUE
PO BOX 6015
INDIANAPOLIS IN 46206-6015
(317) 232-8219

AHERA Approval
Abatement Worker (full from 11/10/89 to 10/4/94)
Contractor/Supervisor (full from 11/10/89 to 10/4/94)
Inspector (full from 11/10/89 to 10/4/94)
Management Planner (full from 11/10/89 to 10/4/94)
Project Designer (full from 11/10/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 3/1/95)
Contractor/Supervisor (full from 3/1/95)
Inspector (full from 3/1/95)
Management Planner (full from 3/1/95)
Project Designer (full from 3/1/95)

IOWA

C MILTON WILSON
IOWA DEPARTMENT OF EDUCATION
SCHOOL FACILITIES ADMINISTRATION AND ACCREDITATION
GRIMES STATE OFFICE BUILDING
DES MOINES IA 50319-0146
(515) 281-4743

AHERA Approval
Abatement Worker (full from 11/30/87 to 10/4/94)
Contractor/Supervisor (full from 11/30/87 to 10/4/94)
Inspector (full from 11/30/87 to 10/4/94)
Management Planner (full from 11/30/87 to 10/4/94)
Project Designer (full from 11/30/87 to 10/4/94)

KANSAS

GARY MILLER
KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
ASBESTOS CONTROL SECTION
FORBES FIELD STATION BUILDING 740
TOPEKA KS 66620-7430
(913) 296-1547

AHERA Approval
Abatement Worker (interim from 11/6/86 to 12/16/87)
Abatement Worker (full from 12/16/87 to 10/4/94)
Contractor/Supervisor (interim from 11/6/86 to 12/16/87)
Contractor/Supervisor (full from 12/16/87 to 10/4/94)

LOUISIANA

EDWARD W SANCHEZ JR
DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY COMPLIANCE DIVISION
7290 BLUEBONNET ROAD
PO BOX 82135
BATON ROUGE LA 70884-2135
(504) 765-0896

AHERA Approval
Abatement Worker (full from 7/23/91 to 10/4/94)
Contractor/Supervisor (full from 7/23/91 to 10/4/94)
Inspector (full from 7/23/91 to 10/4/94)
Management Planner (full from 7/23/91 to 10/4/94)
Project Designer (full from 7/23/91 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 12/01/94)
Contractor Supervisor (full from 12/01/94)
Inspector (full from 12/01/94)
Management Planner (full from 12/01/94)
Project Designer (full from 12/01/94)

MAINE

ROBERT M CLARK
STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION NUMBER 17
AUGUSTA ME 04333
(207) 287-2651

AHERA Approval
Abatement Worker (full from 11/5/90 to 10/4/94)
Contractor/Supervisor (full from 11/5/90 to 10/4/94)
Inspector (full from 11/5/90 to 10/4/94)
Management Planner (full from 11/5/90 to 10/4/94)
Project Designer (full from 11/5/90 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 6/4/95)
Contractor/Supervisor (full from 6/4/95)
Inspector (full from 6/4/95)
Management Planner (full from 6/4/95)
Project Designer (full from 6/4/95)

MARYLAND

MARDEL KNIGHT
MARYLAND DEPARTMENT OF THE ENVIRONMENT
2500 BROENING HIGHWAY
BALTIMORE MD 21224
(410) 631-3801

AHERA Approval
Abatement Worker (full from 9/16/91 to 10/4/94)
Contractor/Supervisor (full from 0/16/91 to 10/4/94)
Inspector (full from 9/16/91 to 10/4/94)
Management Planner (full from 9/16/91 to 10/4/94)
Project Designer (full from 9/16/91 to 10/4/94)

MASSACHUSETTS

CAROL TYSON
MASSACHUSETTS DEPARTMENT OF LABOR AND INDUSTRIES
LEAD AND ASBESTOS LICENSING AND ENFORCEMENT
100 CAMBRIDGE STREET
BOSTON MA 02202
(617) 727-7047

AHERA Approval
Abatement Worker (full from 10/30/87 to 10/4/94)
Contractor/Supervisor (full from 10/30/87 to 10/4/94)
Inspector (full from 10/30/87 to 10/4/94)
Management Planner (full from 10/30/87 to 10/4/94)
Project Designer (full from 10/30/87 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/3/95)
Contractor/Supervisor (full from 7/3/95)
Inspector (full from 7/3/95)
Management Planner (full from 7/3/95)
Project Designer (full from 7/3/95)

MICHIGAN

WESLEY PRIEM
STATE OF MICHIGAN
DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
3500 NORTH LOGAN
PO BOX 30649
LANSING MI 48909
(517) 335-9280

AHERA Approval
Abatement Worker (full from 4/13/89 to 10/4/94)
Contractor/Supervisor (full from 4/13/89 to 10/4/94)
Inspector (full from 4/13/89 to 10/4/94)
Management Planner (full from 4/13/89 to 10/4/94)
Project Designer (full from 4/13/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 6/30/95)
Contractor/Supervisor (full from 6/30/95)
Management Planner (full from 6/30/95)
Project Designer (full from 6/30/95)

MINNESOTA

WILLIAM A FETZNER
MINNESOTA DEPARTMENT OF HEALTH
ASBESTOS UNIT
121 EAST SEVENTH PLACE SUITE 220
PO BOX 64975
ST PAUL MN 55164-0975

Direct training questions to
PINCUS WEITZMAN
(612)215-0904

AHERA Approval
Abatement Worker (full from 10/3/88 to 10/4/94)
Contractor/Supervisor (full from 10/3/88 to 10/4/94)

MISSISSIPPI

DWIGHT WYLE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 10385
JACKSON MS 39289-0385
(601) 961-5171

AHERA Approval
Abatement Worker (full from 4/9/91 to 10/4/94)
Contractor Supervisor (full from 4/9/91 to 10/4/94)
Inspector (full from 4/9/91 to 10/4/94)
Management Planner (full from 4/9/91 to 10/4/94)
Project Designer (full from 4/9/91 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 5/25/95)
Contractor Supervisor (full from 5/25/95)
Inspector (full from 5/25/95)
Management Planner (full from 5/25/95)
Project Designer (full from 5/25/95)

MISSOURI

MR ROGER RANDOLPH
MISSOURI DEPARTMENT OF NATURAL RESOURCES
AIR POLLUTION CONTROL PROGRAM
PO BOX 176
JEFFERSON CITY MO 65102-0176

ASHARA Approval
Abatement Worker (full from 4/4/94)
Contractor Supervisor (full from 4/4/94)
Inspector (full from 4/4/94)
Management Planner (full from 4/4/94)
Project Designer (full from 4/4/94)

MONTANA

ANDREA F GUTHRIE
DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 200901
HELENA MT 59620
(406) 444-3671

AHERA Approval
Abatement Worker (full from 5/16/90 to 10/4/94)
Contractor/Supervisor (full from 5/16/90 to 10/4/94)
Inspector (full from 5/16/90 to 10/4/94)
Management Planner (full from 5/16/90 to 10/4/94)
Project Designer (full from 5/16/90 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 5/9/95)
Contractor/Supervisor (full from 5/9/95)
Inspector (full from 5/9/95)
Management Planner (full from 5/9/95)
Project Designer (full from 5/9/95)

NEBRASKA

ROBERT J DONAHUE
NEBRASKA DEPARTMENT OF HEALTH
ASBESTOS CONTROL PROGRAM
301 CENTENNIAL MALL SOUTH
PO BOX 95007
LINCOLN NE 68509-5007
(402) 471-0783

AHERA Approval
Abatement Worker (full from 5/9/89 to 10/4/94)
Contractor/Supervisor (full from 5/9/89 to 10/4/94)
Inspector (full from 5/9/89 to 10/4/94)
Management Planner (full from 5/9/89 to 10/4/94)
Project Designer (full from 5/9/89 to 10/4/94)

NEVADA

DAVID GOING
NEVADA OCCUPATIONAL SAFETY AND HEALTH ENFORCEMENT SECTION
400 WEST KING STREET SUITE 200
CARSON CITY NV 89710
(702) 687-5240

AHERA Approval
Abatement Worker (full from 12/02/91 to 10/4/94)
Contractor/Supervisor (full from 12/02/91 to 10/4/94)
Inspector (full from 12/02/91 to 10/4/94)
Management Planner (full from 12/02/91 to 10/4/94)
Project Designer (full from 12/02/91 to 10/4/94)

NEW HAMPSHIRE

JOY E HANINGTON
DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH SERVICE
BUREAU OF HEALTH RISK ASSESSMENT
HEALTH AND WELFARE BUILDING
6 HAZEN DRIVE
CONCORD NH 03301-6527
(603) 271-4609

AHERA Approval
Abatement Worker (full from 3/4/92 to 10/4/94)
Contractor/Supervisor (full from 3/4/92 to 10/4/94)
Inspector (full from 3/4/92 to 10/4/94)
Management Planner (full from 3/4/92 to 10/4/94)
Project Designer (full from 3/4/92 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/3/95)
Contractor/Supervisor (full from 7/3/95)
Management Planner (full from 7/3/95)

NEW JERSEY

JAMES A BROWNLEE
STATE OF NEW JERSEY
DEPARTMENT OF HEALTH
CN 360
TRENTON NJ 08625-0360
(609) 984-2193

AHERA Approval
Abatement Worker (full from 6/18/85 to 10/4/94)
Contractor/Supervisor (full from 6/18/85 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 10/1/95)
Contractor/Supervisor (full from 10/1/95)

NEW YORK

GEORGE R ESTEL
DEPARTMENT OF HEALTH
ASBESTOS SAFETY TRAINING PROGRAM
BUREAU OF OCCUPATIONAL HEALTH
II UNIVERSITY PLACE ROOM 312
ALBANY NY 12203-3313
(518) 458-6483

AHERA Approval
Abatement Worker (full from 12/19/90 to 10/4/94)
Contractor/Supervisor (full from 12/19/90 to 10/4/94)
Inspector (full from 12/19/90 to 10/4/94)
Management Planner (full from 12/19/90 to 10/4/94)
Project Designer (full from 12/19/90 to 10/4/94)

NORTH CAROLINA

JOHN J PAT CURRAN
DEPARTMENT OF ENVIRONMENT HEALTH AND NATURAL RESOURCES
DIVISION OF EPIDEMIOLOGY
HEALTH HAZARDS CONTROL BRANCH
PO BOX 27687
RALEIGH NC 27611-7687
(919) 733-0820

AHERA Approval
Abatement Worker (full from 6/10/91 to 10/4/94)
Contractor/Supervisor (full from 6/10/91 to 10/4/94)
Inspector (full from 6/10/91 to 10/4/94)
Management Planner (full from 6/10/91 to 10/4/94)
Project Designer (full from 6/10/91 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 10/4/94)
Contractor/Supervisor (full from 10/4/94)
Inspector (full from 10/4/94)
Management Planner (full from 10/4/94)
Project Designer (full from 10/4/94)

NORTH DAKOTA

JIM RODEN
STATE DEPARTMENT OF HEALTH AND CONSOLIDATED LABORATORIES
1200 MISSOURI AVENUE
BOX 5520
BISMARCK ND 58505
(701) 328-5188

AHERA Approval
Abatement Worker (full from 4/21/89 to 10/4/94)
Contractor/Supervisor (full from 4/21/89 to 10/4/94)
Inspector (full from 4/21/89 to 10/4/94)
Management Planner (full from 4/21/89 to 10/4/94)
Project Designer (full from 4/21/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 1/9/96)
Contractor/Supervisor (full from 1/9/96)
Inspector (full from 1/9/96)
Management Planner (full from 1/9/96)
Project Designer (full from 1/9/96)

OHIO

MARK NEEDHAM
OHIO DEPARTMENT OF HEALTH
PO BOX 118
246 NORTH HIGH STREET
COLUMBUS OH 43266-0118
(614) 466-0061

AHERA Approval
Abatement Worker (full from 7/7/94 to 10/4/94)
Contractor/Supervisor (full from 7/7/94 to 10/4/94)
Inspector (full from 7/7/94 to 10/4/94)
Management Planner (full from 7/7/94 to 10/4/94)
Project Designer (full from 7/7/94 to 10/4/94)

OREGON

ALICE DEHNER
STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY
811 SOUTHWEST SIXTH AVENUE
PORTLAND OR 97204-1390
(503) 229-6353

AHERA Approval
Abatement Worker (full from 9/23/88 to 10/4/94)
Contractor/Supervisor (full from 9/23/88 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/1/95)
Contractor/Supervisor (full from 7/1/95)

PENNSYLVANIA

SHARON LAWSON
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF LABOR AND INDUSTRY
7 AND FORSTER STREETS
HARRISBURG PA 17120
(717) 772-3396

AHERA Approval
Abatement Worker (full from 7/1/91 to 10/4/94)
Contractor/Supervisor (full from 7/1/91 to 10/4/94)
Inspector (full from 7/1/91 to 10/4/94)
Management Planner (full from 7/1/91 to 10/4/94)
Project Designer (full from 7/1/91 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 2/3/95)
Contractor/Supervisor (full from 2/3/95)
Inspector (full from 2/3/95)
Management Planner (full from 2/3/95)
Project Designer (full from 2/3/95)

RHODE ISLAND

DONNA L SOUSA
STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH
206 CANNON BUILDING
THREE CAPITOL HILL
PROVIDENCE RI 02908
(401) 277-3601

AHERA Approval
Abatement Worker (full from 2/4/86 to 10/4/94)
Contractor/Supervisor (full from 2/4/86 to 10/4/94)
Inspector (full from 8/3/89 to 10/4/94)
Management Planner (full from 8/3/89 to 10/4/94)
Project Designer (full from 8/3/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/2/95)
Contractor/Supervisor (full from 7/2/95)
Inspector (full from 7/2/95)
Management Planner (full from 7/2/95)
Project Designer (full from 7/2/95)

SOUTH DAKOTA

BOB MCDONALD
DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES
OFFICE OF WASTE MANAGEMENT
JOE FOSS BUILDING
523 EAST CAPITOL STREET
PIERRE SD 57501
(605) 773-3153

AHERA Approval
Abatement Worker (full from 9/15/88 to 10/4/94)
Contractor/Supervisor (full from 9/15/88 to 10/4/94)
Inspector (full from 9/15/88 to 10/4/94)
Management Planner (full from 9/15/88 to 10/4/94)
Project Designer (full from 9/15/88 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 1/26/95)
Contractor/Supervisor (full from 1/26/95)
Inspector (full from 1/26/95)
Management Planner (full from 1/26/95)
Project Designer (full from 1/26/95)

TEXAS

ATHAN U OGOH
TEXAS DEPARTMENT OF HEALTH
DIVISION OF OCCUPATIONAL HEALTH
1100 WEST 49TH STREET
AUSTIN TX 78756
(512) 834-6600

AHERA Approval
Abatement Worker (full from 5/13/93 to 10/4/94)
Contractor/Supervisor (full from 5/13/93 to 10/4/94)
Inspector (full from 5/13/93 to 10/4/94)
Management Planner (full from 5/13/93 to 10/4/94)
Project Designer (full from 9/22/94 to 10/4/94)

UTAH

LARRY P LARKIN
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY
150 NORTH 1950 WEST NORTH TEMPLE
PO BOX 144820
SALT LAKE CITY UT 84114-4820
(801) 536-4000

AHERA Approval
Abatement Worker (full from 7/8/89 to 10/4/94)
Contractor/Supervisor (full from 7/8/89 to 10/4/94)
Inspector (full from 7/8/89 to 10/4/94)
Management Planner (full from 7/8/89 to 10/4/94)
Project Designer (full from 7/8/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 12/8/95)
Contractor/Supervisor (full from 12/8/95)
Inspector (full from 12/8/95)
Management Planner (full from 12/8/95)
Project Designer (full from 12/8/95)

VERMONT

KAREN CRAMPTON
VERMONT DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
ASBESTOS AND LEAD REGULATORY PROGRAM
108 CHERRY STREET
PO BOX 70
BURLINGTON VT 05402
(802) 863-7231

AHERA Approval
Abatement Work (full from 3/18/92 to 10/4/94)
Contractor/Supervisor (full from 3/18/92 to 10/4/94)
Inspector (full from 3/18/92 to 10/4/94)
Management Planner (full from 3/18/92 to 10/4/94)
Project Designer (full from 3/18/92 to 10/4/94)

ASHARA Approval
Abatement Work (full from 7/3/95)
Contractor/Supervisor (full from 7/3/95)
Inspector (full from 7/3/95)
Management Planner (full from 7/3/95)
Project Designer (full from 7/3/95)

VIRGINIA

KENT STEINRUCK
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
3600 WEST BROAD STREET
RICHMOND VA 23230-4917
(804) 367-8595

AHERA Approval
Abatement Worker (full from 7/1/88 to 10/4/94)
Contractor/Supervisor (full from 7/1/88 to 10/4/94)
Inspector (full from 7/1/88 to 10/4/94)
Management Planner (full from 7/1/88 to 10/4/94)
Project Designer (full from 7/1/88 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 10/7/94)
Contractor/Supervisor (full from 10/7/94)
Inspector (full from 10/7/94)
Management Planner (full from 10/7/94)
Project Designer (full from 10/7/94)

WASHINGTON

JANET L STUTESMAN
WASHINGTON DEPARTMENT OF LABOR AND INDUSTRIES
ASBESTOS CERTIFICATION
PO BOX 44614
OLYMPIA WA 98504-4614
(360) 902-5435

AHERA Approval
Abatement Worker (interim from 12/28/87 to 11/10/89)
Abatement Worker (full from 11/10/89 to 10/4/94)
Contractor/Supervisor (interim from 12/28/87 to 11/10/89)
Contractor/Supervisor (full from 11/10/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 4/1/96)
Contractor/Supervisor (full from 4/1/96)

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Project Designer (full from 2/28/91 to 10/4/94)

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Abatement Worker (full from 11/10/89 to 10/4/94)
Contractor/Supervisor (full from 11/10/89 to 10/4/94)
Inspector (full from 11/10/89 to 10/4/94)
Management Planner (full from 11/10/89 to 10/4/94)
Project Designer (full from 11/10/89 to 10/4/94)

ASHARA Approval
Abatement Worker (full from 7/1/95)
Contractor/Supervisor (full from 7/1/95)
Inspector (full from 7/1/95)
Management Planner (full from 7/1/95)
Project Designer (full from 7/1/95)

C ACBM QAR Checklist Example

United States Postal Service
Environmental Compliance Review Checklist:

Asbestos-Containing Building Materials (ACBMs)

Facility Identification Number: _____ (Finance + Sublocation Numbers)

Facility Name:_____

Facility Type (e.g., BMF, GMF, VMF): _____

Facility Address:_____

Date(s) of Review:_____ Period Under Review: _____

Review Team Leader: _____

Affiliation:_____ Phone No.: _____

Review Team Members: _____

Facility Point of Contact (POC): _____

POC Phone No.:_____ Fax No.: _____

Table of Contents

A. Introduction

1. Key Definitions

- *Asbestos-Containing Building Material (ACBM)* — as defined by the Environmental Protection Agency (40 CFR Part 763: Asbestos Model Accreditation Plan and the Toxic Substances Control Act (TSCA), Section 202), is friable asbestos-containing material (ACM), containing more than 1 percent of asbestos, that has been applied on ceilings, walls, structural members, piping, duct work, or any other part of a building; and that when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. The term includes nonfriable ACM after it becomes damaged by any means, such that when dry, it may be crumbled, pulverized, or reduced to powder by hand pressure.
- *Asbestos-Containing Material (ACM)* — as defined by the Occupational Safety and Health Administration (29 CFR Parts 1910 and 1926), is material that contains more than 1 percent of asbestos. OSHA also defines certain high-risk materials that are presumed to contain asbestos as *presumed asbestos-containing material* (PACM). The PACM designation applies to thermal system insulation, sprayed-on or trowled-on surfacing material, and debris where such material is present. The PACM terminology was added to law to ensure compliance with the hazard communication provisions of the laws specifically for buildings constructed prior to 1980.

2. Applicable Federal Regulations

- EPA regulations:

  a. 40 CFR 61 Subpart M: The National Emission Standards for Hazardous Air Pollutants (NESHAP).
  b. 40 CFR 763: Asbestos Model Accreditation Plan.
  c. TSCA Title II: Asbestos Hazard Emergency Response Act (AHERA).
  d. Public Law 101–637: The Asbestos School Hazard Abatement Reauthorization Act (ASHARA).

- OSHA regulations:

  e. 29 CFR 1910.1001 — Asbestos Standard for General Industry.
  f. 29 CFR 1926.1101 — Asbestos Standard for the Construction Industry.
  g. 29 CFR 1910.1200 — Hazard Communication Standard.

3. Postal Service Policy and Guidance

- MI EL-810-98-1 (02/12/98) defines the Postal Service's asbestos-containing building materials control program.
- MI EL-830-95-2 (06/22/95) defines the Postal Service's control of asbestos exposure from brake and clutch repair and service.
- Handbook AS-556, *Asbestos Management Guide*, contains specific guidance pertaining to all aspects of asbestos management and control in Postal Service-owned or -leased space.
- The Postal Service asbestos abatement project specifications SOW contains specific contractual guidance for asbestos work that includes removal, disposal, replacement, encapsulation, enclosure, and/or repair of asbestos-contaminated materials, insulation, fireproofing, and acoustical materials on pipes, boilers, ducts, tanks, structural members, ceilings, walls, and flooring.

Read Before Proceeding!

1. This checklist is intended as a guide for planning and conducting environmental compliance reviews at Postal Service facilities in accordance with the requirements for asbestos-containing building materials. It addresses applicable federal regulations and Postal Service policy and guidance as stated in Postal Service management instructions and handbooks. This checklist may require modification in order to meet the needs of state and local regulations, facility-specific review objectives, or other special circumstances.

2. The person conducting the review should complete the Applicability section of this checklist first. The questions in this section will determine if the remaining sections of the checklist need to be completed.

3. If the answer to a question is shown in large, boldface type, it indicates noncompliance with federal regulations or Postal Service policy. For example, answering "**N**" to the question below is a noncompliance finding.

Example:	Did the facility report releases of a product that occurred from any underground storage tanks to the proper regulatory authority? (Y = Yes; N = No; N/A = Not Applicable)	Y	**N**	N/A

B. Applicability	
1. Does the facility contain any ACBM (including ACM and PACM)? ***Note:*** *A completed ACBM survey of the facility must be reviewed to answer "No" to this question***. "***Unknown" is an appropriate answer if no survey has been completed.* a. If "no," stop here. b. If "yes" or "unknown," proceed with the checklist.	Y N U* *U = Unknown
Comments:	

C. ACBM Management

Note: *Intact and undisturbed asbestos materials do not pose a health risk. The most effective way to manage nonfriable ACBM is to manage it in place. Friable ACBM, such as TSI and sprayed-on or troweled-on surfacing materials, should be removed as soon as possible upon discovery. Complete Sections C and E-1 for all facilities.*

1. ■ Was the ACBM survey completed by a "competent professional" to identify and assess the condition of all ACBM present?	Y	**N**	
■ Was the inspection performed by an AHERA- or ASHARA-accredited building inspector? (MI, Program Element)	Y	**N**	
Note: *All postal-owned and -leased buildings must be surveyed for asbestos except for buildings built after 1990 that have been certified as not containing ACBM.* (MI, Surveys)			
2. Has a facility-specific operations and maintenance (O&M) program been established for ACBM management in accordance with EPA Publication 20T-2003, *Managing Asbestos in Place,* to ensure that (MI, ACBM Management):	Y	**N**	N/A
■ ACBM remains undisturbed and in good condition to prevent fiber release?	Y	**N**	
■ ACBM is monitored frequently (minimum every 6 months)?	Y	**N**	
■ Damaged materials are promptly repaired and previously released fibers are cleaned up?	Y	**N**	
Note: *"N/A" is appropriate if no ACM, PACM, or ACBM is found during the survey. If "N/A" is correct, complete only* ***Section C****. Do not complete the rest of this checklist.*			
3. Are all operations and maintenance files concerning ACBM maintained at the facility level while ACBM is present in the facility?	Y	**N**	
4. When all ACBM has been removed from the facility, have the pertinent records been forwarded to the Federal Records Center for 30-year retention? (good management practice (GMP))	Y	**N**	
5. Has the district manager designated a district asbestos program coordinator (DAPC)? (MI, Responsibilities)	Y	**N**	
Note: *This question should still be answered if the facility contains no asbestos.*			
6. Is the DAPC accredited as an AHERA inspector or management planner? (HBK, Chapter 9)	Y	**N**	
7. Has the installation head designated a facility asbestos coordinator (FAC)? (MI, Responsibilities)	Y	**N**	

8. Have all sprayed-on or troweled-on ACBM surfacing materials been removed? (MI, Mandated Removal). ***Note:*** *Sprayed-on or troweled-on materials that were previously encapsulated may be managed in place if the required frequent inspections conducted by the FAC show that these materials are in good condition.*	Y **N**
9. Have any lease agreements, lease renewals, or building purchases (for existing structures) been executed without completing an asbestos survey? (MI, Building Decisions Regarding New Space Acquisitions) ***Note:*** *Refer to the MI for specific exceptions to the requirement for asbestos surveys prior to occupancy by postal personnel.*	Y **N**
Comments:	

D. Control Practices

Note: *As stated in the MIs and handbook, postal employees can accomplish only Class III/Class IV asbestos-related work. Postal Service-approved work practices and work authorizations are required for any postal employee to perform asbestos-related work.*

1. Maintenance and housekeeping personnel:	
■ Are specific work practice guidelines established for maintenance, cleaning, and minor repair work on ACBM friable and nonfriable surfaces (e.g., wet methods for working on ACBM surfaces, using a HEPA-filtered vacuum for cleaning of flooring and other ACBM surfaces, prohibiting the sanding of vinyl asbestos floor tiles, using abrasive pads on floor buffers at no greater than 300 rpm for floor stripping operations, no buffing of vinyl asbestos tiled flooring unless the flooring has at least three coats of wax buildup based upon recommended application rates)? A listing of the established work practices should be attached to the audit report.	Y **N** N/A
■ Are approved work practices used for any maintenance, equipment installation, renovation, alteration, demolition, or other work that may disturb ≤ standard glove bag (25 square feet) of ACBMs?	Y **N** N/A
■ Are Forms 8210 completed for all work in ACBM areas?	Y **N** N/A
2. Brake and clutch inspection, disassembly, repair, and assembly personnel: ***Note:*** *This section applies specifically to Postal Service vehicle maintenance facilities (VMFs). Work practices and control measures for these operations are detailed in OSHA, 29 CFR Part 1910.1001, Appendix F. Please refer to this regulation for specific audit guidance (e.g., work practices other than those recommended in Appendix F must be approved by OSHA). MI EL-830-95-2 guidance rigidly follows the OSHA regulation.*	
■ Are appropriate engineering control methods used in brake and clutch repair (e.g., negative pressure enclosure/HEPA vacuum system method, low pressure/wet cleaning method, equivalent methods, wet method)? (OSHA, 29 CFR 1910.1001, Appendix F)	Y **N** N/A

■ Are “asbestos regulated areas” established where exposures to workers might exceed the OSHA permissible exposure limit (PEL) of 0.1 f/cc of air as an 8-hour time-weighted average (TWA) or the excursion limit (EL) of 1.0 f/cc of air for any one 30-minute period of the work day? (OSHA, 29 CFR 1910.1001)) If “yes,” answer the next two questions.	Y **N** N/A
■ If regulated areas exist, are appropriate control measures used (e.g., warning signs, hazard communication and training classes) to minimize the number of authorized personnel who will be exposed to asbestos? (OSHA, 29 CFR 1910.1001)	Y **N**
■ Are workers in regulated areas provided with appropriate protective clothing and equipment and separate changing rooms, shower facilities, and lunch rooms? (OSHA, 29 CFR 1910.1001)	Y **N**
Comments:	

E. Rapid Response and Investigation Actions

Note: *The Postal Service uses a generic statement of work (SOW) as a contracting mechanism to obtain services for the purposes of identifying areas containing ACBM, developing asbestos O&M plans, assessing potential risk, identifying areas that require regulated area status, and developing asbestos abatement plans. The MI requires that this work be accomplished by qualified asbestos contractors and accredited inspectors.*

1. Has the facility initiated any rapid response or investigation actions related to ACBM? If "yes," go to question 2. If "no," go to **Section F**.	Y N
2. Has the facility been inspected by an accredited inspector and qualified asbestos contractor personnel to determine the nature and extent of ACBM within all areas of the Postal Service facility? (MI, Policy) ■ Attach a copy of all initial and reinspection reports to this checklist.	Y **N**
3. Did the postal facility establish an Asbestos Operations and Maintenance Plan as a result of the initial inspection? (MI, Operations and Maintenance Plans) ■ Attach a copy of the O&M plan to this checklist.	Y **N**

Comments:

F. Abatement Projects			
1. Have all major maintenance, repair and cleanup, alteration, renovation, demolition, and abatement actions involving ACBM been accomplished by qualified asbestos contractors? (MI; OSHA, 29 CFR 1926.1101; OSHA, 29 CFR 1910.1200; EPA, 40 CFR 61, NESHAP; EPA, 40 CFR 763; TSCA Title II, AHERA; Public Law 101–637, ASHARA)	Y	**N**	N/A
2. Is the facility maintaining appropriate records of all such projects and performing necessary follow-up actions? (MI, GMP)	Y	**N**	
Comments:			

G. Hazard Communication and Employee Notification	
1. Have all facility employees been informed of the hazards associated with ACBM and how to prevent exposures (e.g., material safety data sheets; asbestos awareness training)? (MI, Communication and Notifications; MI EL-830-95-2; 29 CFR 1910.1200)	Y **N**
2. Has the information, communication, and/or training been documented in their personnel and/or training files? (MI, Recordkeeping; MI EL-830-95-2; 29 CFR 1910.1200)	Y **N**
3. Has the facility notified the affected employees of these results either individually or by posting the results in an appropriate location within 15 working days following receipt of the results of any monitoring (i.e., ambient air/personal sampling)? (29 CFR 1910.1001)	Y **N**
4. If the TWA and/or EL has been exceeded, does the notification of monitoring results contain the corrective action being taken by the employer to reduce worker exposure to below the TWA and/or EL? (29 CFR 1910.1001)	Y **N**
Comments:	

H. Training	
1. Does the DAPC have AHERA accreditation as an inspector or management planner? (MI, HBK, Training)	Y **N**
2. Has the DAPC received appropriate refresher training using EPA- or state-approved AHERA or ASHARA courses? (MI, HBK, Training)	Y **N**
3. Has the FAC received appropriate asbestos awareness training? (HBK, Chapter 9)	Y **N**
4. Has the FAC received appropriate refresher training using EPA- or state-approved courses? (HBK, Chapter 9)	Y **N**
5. Have the facility's maintenance and housekeeping personnel who work in a facility that contains ACBM received annual asbestos awareness training? (HBK, Chapter 9; 29 CFR 1910.1001; 40 CFR 763)	Y **N**
6. At a minimum, does the training address: ■ Health effects of asbestos? ■ Locations of the ACBM in the facility? ■ Recognition of ACBM damage and deterioration?	 Y **N** Y **N** Y **N**
7. Do other employees at the postal facility receive asbestos awareness training which, at a minimum, identifies the location of ACBM and health risks associated with asbestos fiber releases due to inadvertent disturbance of the materials? (HBK, Chapter 9)	Y **N**
8. Are records of training and accreditation maintained at the facility? (40 CFR 763) ***Note:*** These records should be maintained by the FAC.	Y **N**
9. Are records of training and accreditation maintained in the employee's personnel file? (GMP)	Y N
10. Are records of training and accreditation maintained at the National Center for Employee Development? (MI, Training)	Y **N**
Comments:	

I. Exposure Monitoring	
1. Is all air monitoring for asbestos fibers conducted by a competent professional (e.g., certified industrial hygienist)? (29 CFR 1910.1001; 29 CFR 1926.1101; 40 CFR 61)	Y **N**
2. Are all air monitoring samples analyzed by an accredited laboratory? (29 CFR 1910.1001; 29 CFR 1926.1101; 40 CFR 61)	Y **N**
3. Is air monitoring conducted to assess the condition of ACBM when: ■ ACBM is discovered in poor condition? (GMP) ■ Competent professionals determine that monitoring is necessary to complement the assessment process (29 CFR 1910.1001; 29 CFR 1926.1101; 40 CFR 61)	 Y **N** Y **N**
4. Is air monitoring conducted to determine potential employee exposure when: ■ ACBM is disturbed (fiber release episode)? (29 CFR 1910.1001) ■ ACBM is discovered in friable condition? (29 CFR 1910.1001) ■ Employees or their representatives request an exposure determination? (29 CFR 1910.1001) ■ Abatement projects or major repairs are conducted? (29 CFR 1910.1001; 29 CFR 1910.1101; 40 CFR 61)	 Y **N** Y **N** Y **N** Y **N**
5. Is periodic exposure monitoring (the time period between monitoring events is not to exceed 6 months) conducted for those employees whose initial monitoring results were above the recommended TWA or EL standards? (29 CFR 1910.1001)	Y **N**
6. Is exposure monitoring conducted whenever there has been a change in the production, process, control equipment, personnel, or work practices that is reasonably expected to result in new or additional exposures above the TWA and/or EL standards? (29 CFR 1910.1001)	Y **N**
Comments:	

J. Personal Protective Equipment and Clothing			
1. Are appropriate respirators provided as an interim measure or in emergencies to reduce worker exposures to levels below the TWA and/or EL standards? (29 CFR 1910.1001; 29 CFR 1910.1101)	Y	**N**	N/A
2. If the postal facility routinely uses respirators as worker protection, is a full respirator program established in accordance with 29 CFR 1910.134 as required?	Y	**N**	N/A
3. Is protective clothing and equipment provided to all employees whose asbestos exposures exceed the TWA and/or EL, or where the possibility of eye irritation exists? (29 CFR 1910.1001; 29 CFR 1910.1101)	Y	**N**	N/A
4. Are appropriate change rooms, shower facilities, and lunch rooms provided for employees who work in asbestos-regulated areas and who must wear protective clothing and equipment? (29 CFR 1910.1001; 29 CFR 1910.1101; 29 CFR 1910.141)	Y	**N**	N/A
5. Is contaminated clothing removed, placed in closed containers, and sent to a designated laundering facility? (29 CFR 1910.1001; 29 CFR 1910.1101)	Y	**N**	N/A
6. Does the postal facility provide clean protective clothing and equipment to the affected employees at least on a weekly basis? (29 CFR 1910.1001; 29 CFR 1910.1101)	Y	**N**	N/A
Comments:			

K. Medical Surveillance			
1. Is a medical surveillance program in place for all employees who are or will be exposed to asbestos at or above the TWA and/or EL standards? (29 CFR 1910.1001; 29 CFR 1910.1101)	Y	**N**	N/A
2. Are preplacement, annual, and termination medical examinations required for employees who are or will be exposed to asbestos at or above the TWA and/or EL standards? (29 CFR 1910.1001; 29 CFR 1910.1101) ***Note:*** The scope of these medical examinations is detailed in 29 CFR 1910.1001, Appendix D of 29 CFR 1910.1001, and 29 CFR 1910.1101.	Y	**N**	N/A
Comments:			

L. Recordkeeping	
1. Are all asbestos survey reports, asbestos abatement documentation, O&M plans, training, and other appropriate asbestos-related documents treated as accountable records? (MI, Recordkeeping)	Y **N**
2. Does the FAC maintain the original records at the facility for as long as ACBM is contained in the facility? (MI, Recordkeeping)	Y **N**
Comments:	

M. Enforcement Actions	
1. Have any enforcement actions related to ACBM been taken against the facility in the last 3 years? If "yes," indicate which of the following enforcement actions were taken: ■ Warning letter. ■ Notice of violation. ■ Notice of deficiency. ■ Compliance order. ■ Administrative order. ■ Consent decree. ■ Other _____.	Y N Y N Y N Y N Y N Y N Y N Y N
2. Are there any open or unresolved enforcement actions? If "yes," please describe the type of actions and status below:	**Y** N
3. Have solutions to resolve past and open enforcement actions been implemented to prevent recurrence? If "yes," please describe below:	Y **N**

Attachment 1

Summary of Significant Findings

Provide a written summary of all significant findings here. Key the summary to the QAR section title and question number.

Attachment 2

ACBM Recordkeeping Checklist

(Check off items you have.)

Regulations and Policies

_____ Up-to-date copies of all applicable federal, state, and/or local regulations pertaining to ACBM.

_____ Up-to-date copies of all applicable Postal Service policies, procedures, and other guidance documents related to ACBM.

Required Records

_____ List of buildings containing ACBM and location of the ACBM within the buildings.

_____ ACBM training records.

_____ Personal protective equipment and clothing records.

_____ Medical records.

_____ Notifications to regulators concerning ACBM-related work or emergency operations.

_____ Documentation of ACBM sampling and analytical results.

_____ Documentation of control measures, work practices, or actions.

_____ Documentation of abatement, repair, demolition, and other such actions.

_____ Other administrative records, as required.

Reports

_____ Regulatory inspection reports.

_____ Previous Postal Service internal audit reports.

_____ Postal Service ACBM inspection reports.

_____ Sampling and analysis reports.

_____ After-action reports concerning demolition, renovation, remediation, or removal of ACBM.

_____ Training and certification reports.

_____ Other reports, as required.

Attachment 3

ACBM On-Site Tour Guidelines

These guidelines are provided as a reference for the records and documentation that the person conducting the compliance review needs to look at or for during the initial tour of the facility. The listing is not all-inclusive. It is meant to serve as a tool to remind the compliance reviewer of the major elements of ACBM management and operations.

Plans and Maps to Review:

- Installation ACBM management plan and operating plan (includes abatement plans).
- List of buildings containing ACBM and location of ACBM within the buildings.

Physical Features to Examine:

- Pipe, spray-on, duct, and troweled cementitious insulation and boiler lagging.
- Ceiling and flooring material.
- Asbestos insulation in and/or on equipment (exhaust systems, generators, vehicles, etc.).
- Maintenance shops (brake and clutch repair operations).

Records to Review:

- ACBM training records.
- Personal protective equipment and clothing records.
- Medical records.
- Notifications to regulators concerning ACBM-related work or emergency operations.
- Regulatory inspection reports.
- Documentation of ACBM sampling and analytical results.
- Documentation of control measures, work practices, or actions.
- Documentation of abatement, repair, demolition, and other such actions.
- Other administrative records, as required.

Attachment 4

ACBM Inventory Sheet

Facility:_____
Date:_____

Person Conducting Compliance Review:_____

Location of ACBM (Specific)	Type of ACBM	Estimated Quantity of ACBM (Linear Feet)	Condition of ACBM

D Acronyms and Abbreviations

μm	—	micrometer
ACBM	—	asbestos-containing building material
ACM	—	asbestos-containing material
ADOHS	—	Alaska Department of Occupational Health and Safety
A-E	—	architect-engineer
AECC	—	area environmental compliance coordinator
AHERA	—	Asbestos Hazard Emergency Response Act
AOI	—	associate office infrastructure
APC	—	asbestos planning committee
ASHARA	—	Asbestos School Hazard Abatement Reauthorization Act
ASTM	—	American Society for Testing and Materials
BNTC	—	Bainbridge Naval Training Center
CAA	—	Clean Air Act
CAD	—	computer-aided design
CERCLA	—	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	—	*Code of Federal Regulations*
CIH	—	certified industrial hygienist
COR	—	contracting officer's representative
CSHO	—	Compliance Safety and Health Officer
DAPC	—	district asbestos program coordinator

DECC	—	district environmental compliance coordinator
EAS	—	Executive Accounting System
EL	—	excursion limit
ELM	—	*Employee and Labor Relations Manual*
EMIS	—	Environmental Management Information System
EMP	—	Environmental Management Policy
EPA	—	Environmental Protection Agency
ERCS	—	Environmental Recordkeeping Compliance System
ES	—	environmental specialist
f/cc	—	fibers per cubic centimeter
FAC	—	facility asbestos coordinator
FSO	—	facilities service office
GMP	—	good management practice
HEPA	—	high-efficiency particulate air
HR	—	Human Resources
HVAC	—	heating, ventilation, and air-conditioning
IAW	—	in accordance with
IH	—	installation head
LBP	—	lead-based paint
LEA	—	local education authority
MAP	—	*Model Accreditation Plan*
MFO	—	major facilities office
MI	—	Management Instruction
MMO	—	Maintenance Management Order
MOA	—	Municipality of Anchorage
MPP	—	Maintenance Policies and Programs

NCED	—	National Center for Employee Development
NCL	—	new construction leased
NEA	—	negative exposure assessment
NESHAP	—	National Emission Standards for Hazardous Air Pollutants
NIBS	—	National Institute of Building Sciences
NIST	—	National Institute for Standards and Technology
O&M	—	operations and maintenance
ORM	—	OSHA Regulated Method (for analysis of asbestos samples)
OSHA	—	Occupational Safety and Health Administration
PACM	—	presumed asbestos-containing material
PCM	—	phase contrast microscopy
PEL	—	permissible exposure limit
PLM	—	polarized light microscopy
PMSC	—	purchasing and materials service center
POC	—	point of contact
POS	—	point of sale
QAR	—	quality assurance review
RACM	—	regulated asbestos-containing material
RCRA	—	Resource Conservation and Recovery Act
RECS	—	Real Estate Contract System
RES	—	real estate specialist
RIMS	—	Records and Information Management System
rpm	—	revolutions per minute
RQ	—	reportable quantity
S&H	—	safety and health

SCA	—	Service Contract Act
SEM	—	scanning electron microscopy
SOP	—	standard operating procedures
SOW	—	statement of work
SSSD	—	small-scale, short-duration
SSST	—	small-scale, short-term
STN	—	Security Technicians Network
SWA	—	Safety and Workplace Assistance
TEM	—	transmission electron microscopy
TSCA	—	Toxic Substances Control Act
TSI	—	thermal system insulation
TWA	—	time-weighted average
VAT	—	vinyl asbestos tile
VMF	—	vehicle maintenance facility
VOB	—	Voice of the Business
VOC	—	Voice of the Customer
VOE	—	Voice of the Employee

E Glossary

ACBM Statement of Work — used to procure asbestos-related services.

ACM Targeted Area Response Assessment Services SOW — used to contract services to respond to, and investigate incidents of, potential personnel exposures to suspect ACM or PACM.

AHERA-accredited — describes inspectors and management planners who have participated in training mandated by AHERA and who must develop O&M plans and conduct asbestos surveys.

American Society for Testing and Materials — produces two types of asbestos standards — Standard Practices and Test Methods.

area environmental compliance coordinator — provides direction and support to performance clusters regarding EPA, state, and local asbestos regulations; helps develop an areawide asbestos control program.

area-level records — used to track implementation, budget requirements and expenditures, and other program needs.

Asbestos Abatement Project Specifications SOW — provides technical specifications for asbestos abatement projects.

asbestos fiber release episodes, procedures for — used by the building owner to address the hazard if moderate to relatively large amounts of ACM are disturbed and fiber releases occur.

Asbestos Hazard Emergency Response Act — includes guidelines for accrediting inspectors and management planners, procedures for conducting surveys, and abatement guidelines; provides regulations and guidance for management of ACM in schools.

asbestos planning committee — consisted of a cross-functional work group that provided a forum for all asbestos-related *CustomerPerfect!* enabling processes in the Postal Service.

Asbestos School Hazard Abatement Reauthorization Act — establishes accreditation requirements for inspectors and abatement contractors who work in public and commercial buildings.

asbestos spills — releases of asbestos; for example, water damage occurs in a facility and sizable amounts of ACM or PACM are dislodged. An evaluation by a competent person is required to determine the class of asbestos work activity required to clean up the spill.

asbestos-containing waste material — includes regulated asbestos-containing waste material and materials contaminated with asbestos. This definition also includes disposable equipment and clothing.

bridging encapsulants — water-based compounds that are spray applied on the surface and form a homogeneous coating over the ACM.

Category I nonfriable ACM — asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM).

Category II nonfriable ACM — any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

certified industrial hygienist — a professional who has passed the certification test of the American Board of Industrial Hygiene and is qualified by education, training, and experience to anticipate, recognize, evaluate, and develop control for occupational health hazards.

Class I work — activities involving the removal of TSI and surfacing ACM or PACM.

Class II work — activities involving the removal of ACM or PACM that is not TSI or surfacing ACM or PACM.

Class III work — repair and maintenance activities that are likely to disturb ACM or PACM. Total amount of disturbed ACM or PACM cannot exceed one standard glove bag (60 inches x 60 inches).

Class IV work — maintenance and custodial activities during which employees contact, but do not disturb, ACM or PACM.

competent person — a person who can identify existing and predictable hazards that are hazardous to employees and who has the authority to take prompt corrective measures to eliminate the hazards. This person must have the required training and a high level of knowledge of worksite safety and health issues.

compliance safety and health officer — a person who works for OSHA and inspects facility-level and worksite operations.

contracting officer — the government official responsible for all contracting actions related to a project.

contracting officer's representative — a person designated by the contracting officer to oversee a project and make decisions.

CustomerPerfect! — a method of doing business adopted by the Postal Service. This approach includes information on customer needs (Voice of the Customer), employee needs (Voice of the Employee), and business needs (Voice of Business).

district asbestos program coordinator — designated by the district manager, the DAPC coordinates, administers, and implements asbestos control programs for the district and plants within the district.

district environmental compliance coordinator — monitors and evaluates compliance with EPA and state asbestos environmental regulations.

district-level records — includes budget records and records necessary for the administration of the district asbestos control program.

encapsulation — the treatment of ACBMs with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers.

enclosures — airtight, impermeable, permanent barriers applied around ACBM to prevent the release of asbestos fibers.

Environmental Compliance Recordkeeping System — the corporate recordkeeping system that is maintained by Environmental Management Policy at Headquarters.

Environmental Training SOW — used to contract for asbestos management training courses.

environmental web site, internal Postal Service — http://blue.usps.gov/environmental

EPA Green Book — *Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials*; the latest EPA guidance on asbestos, issued in July 1990.

EPA Pink Book — *Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials*; available on the Postal Service's internal environmental web site.

EPA Purple Book — *Guidance for Controlling Asbestos-Containing Materials in Buildings*; available on the Postal Service's internal environmental web site.

excursion limit — the OSHA-mandated level equal to an airborne concentration of 1.0 fibers per cubic centimeter of air (1 f/cc) as averaged over a sampling period of 30 minutes.

facility — 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 building, structure, or installation 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 subpart is not excluded, regardless of its current use or function.

facility asbestos coordinator — the installation head or his or her designee, who is the custodian of the asbestos control program records for the facility.

facility-level records — asbestos survey reports, asbestos abatement documentation, O&M plans, training, and other asbestos-related documents.

friable asbestos material — any material containing more than 1 percent asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, PLM, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by PLM, verify the asbestos content by point counting using PLM.

functional space — the basic unit for collecting assessment data. Functional spaces are used for assessing suspect material.

General Industry Standard — OSHA asbestos standards issued as CFR 1910.1001.

hazard rank — a method of ranking hazards from most to least hazardous.

homogeneous area — an area used for sampling suspect material. A homogeneous area may include several functional spaces.

Identification and Control of ACM and Lead-Based Paint SOW — used to contract for professional services in support of ACM and lead-based paint programs.

initial exposure assessment — in accordance with the OSHA asbestos standards, each employer is to perform initial monitoring of employees who are, or may reasonably be expected to be, exposed to airborne asbestos concentrations at or above the TWA permissible exposure limit and or excursion limit.

installation — any building or structure or any group of buildings or structures at a single demolition or renovation site that is under the control of the same owner or operator (or owner or operator under common control).

management planner — a person who is certified and trained, under the provisions of AHERA and ASHARA, to conduct asbestos hazard assessments and formulate asbestos operations and management plans.

medical records — exposure data, exposure monitoring data, and other medical information pertinent to individual employees. Facility medical personnel maintain these records.

MI EL-810-98-1, *Asbestos-Containing Building Materials Control Program* — establishes policy for identifying and controlling ACBM and presumed asbestos-containing material in postal facilities, delineates responsibilities at all levels of the organization, and establishes administrative procedures and funding policy.

Model Accreditation Plan — the ASHARA plan that details the training requirements for asbestos inspectors, management planners, project designers, contractors, supervisors, and workers.

national medical director, Human Resources — the Postal Service Headquarters unit that is responsible for implementing and conducting occupational safety and health programs.

O&M plan — this document describes all asbestos-related activities pertinent to a specific facility.

O&M procedures, basic — basic procedures used for routine custodial and maintenance tasks that may involve ACM.

O&M procedures, special — special techniques to clean up asbestos fibers on a routine basis.

objective data — data that demonstrates that the product or material containing asbestos minerals or the activity involving such products or materials cannot release airborne asbestos fibers in concentrations that are likely to exceed the TWA permissible exposure limit and or excursion limit even under work conditions that have the greatest potential for releasing asbestos fibers.

ordered demolition — a demolition mandated by order of a qualified state or local governmental agency because a facility is either structurally unsound and in danger of imminent collapse or is being demolished as part of a government project (e.g., urban renewal project or road project).

penetrating encapsulant — water-based compounds that are spray applied over ACM and penetrate through the ACM matrix to the substrate.

permissible exposure limit — for asbestos, includes both the 8-hour TWA limit of 0.1 f/cc and the excursion limit of 30-minute average concentration of 1.0 f/cc.

qualified state or local governmental agency — the governmental agency that has legal authority to inspect a facility and declare it structurally unsound and in imminent danger of collapse. Generally, the local building department or local engineering department has these responsibilities. In order for such an agency to make declarations concerning a building's structural soundness and risk of collapse, the persons making such determinations must have appropriate training or experience**.**

quality assurance review — a preventive, systematic, documented, periodic, and objective review of facility operations and practices related to meeting environmental requirements.

Records and Information Management Systems — the corporate recordkeeping system that is maintained by Finance at Headquarters.

regulated asbestos-containing material — (a) friable material, (b) Category I nonfriable material that has become friable, (c) Category I nonfriable material that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II nonfriable material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on it during the course of the demolition.

suspect RACM — any material that is believed to contain asbestos that is either friable or Category I or II nonfriable material that has or will become regulated by actions that are expected to act upon the material.

training records — records the NCED keeps for tracking all asbestos-related training and retains except for those records maintained by the facility.

unique methods — any method of removing RACM that is not normally or has not been previously considered but, when implemented, will allow the owner or operator to remove RACM in situations otherwise thought too dangerous or impossible (e.g., the removal of material from a structurally unsound facility).

Voice of the Business — the part of *CustomerPerfect!* that represents elements or factors in the industrial business environment that may shape, influence, or direct future work.

Voice of the Customer — the part of *CustomerPerfect!* that represents an assessment of the needs and expectations of customers.

Voice of the Employee — the part of *CustomerPerfect!* that represents the needs and concerns of postal employees.

wet methods — methods for handling, mixing, applying, removing, cutting, scoring, or otherwise working with asbestos to prevent fiber release and potential worker exposures where practicable.

worker protection programs — O&M work practices that help ensure that custodial and maintenance staff are adequately protected from asbestos exposure.