

EPA 340/1-90-003D
June 1991

REFERENCE INFORMATION

Asbestos NESHAPs Inspection and Safety Procedures

Training Course

(Supplemental Published Guides and Other Informational Documents)

**Supplemental Information
Asbestos NESHAPs Inspection and Safety Procedures**

Table of Contents

- Item 1 - A Guide to the Asbestos NESHAP
 (As Revised November 1990)**
- Item 2 - Asbestos/NESHAP Regulated Asbestos Containing
 Materials Guidance**
- Item 3 - Asbestos/NESHAP Adequately Wet Guidance**
- Item 4 - Reporting And Recordkeeping Requirements For Waste
 Disposal
 (A Field Guide)**
- Item 5 - Common Questions On The Asbestos NESHAP**
- Item 6 - The Asbestos Informer**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

ASBESTOS NESHAP GUIDANCE MATERIALS

The Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 61, Subpart M, was amended on November 20, 1990 by the U.S. Environmental Protection Agency (EPA) to increase the level of compliance with the demolition and renovation provisions.

In order to assist the public and regulated community to understand the requirements under the Asbestos NESHAP, a series of guidance documents were developed and are enclosed with this letter.

These documents are intended for information purposes **ONLY**, and may not in any way be interpreted to alter or replace the coverage or requirements of Subpart M.

If you have specific questions on any of these documents, please contact the Asbestos NESHAP Coordinator for your State. A list of coordinators can be found in the document entitled: Asbestos NESHAP National Contact List.



Printed on Recycled Paper

Item 1 -

**A Guide to the Asbestos NESHAP
(As Revised November 1990)**



A Guide To The Asbestos NESHAP

As Revised November 1990



**A Guide to the Asbestos
NESHAP as Revised
November 1990**

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Stationary Source Compliance Division
Washington, DC 20460

December 1990

DISCLAIMER

This manual was prepared by the Research Triangle Institute and Entropy Environmentalists, Inc. for the Stationary Source Compliance Division of the U.S. Environmental Protection Agency. It has been completed in accordance with EPA Contract No. 68-02-4462, Work Assignment No. 90-123. The contents of this report are reproduced herein as received from the contractor. The opinions, findings, and conclusions expressed are those of the authors and not necessarily those of the U.S. Environmental Protection Agency. Any mention of product names does not constitute endorsement by the U.S. Environmental Protection Agency.

A GUIDE TO THE ASBESTOS NESHP AS REVISED NOVEMBER 1990

INTRODUCTION

The Environmental Protection Agency (EPA), under the requirements set forth by the Clean Air Act (CAA) of 1971, is required to develop and enforce regulations necessary to protect the general public from exposure to air pollutants that are known to be hazardous to human health. The specific authority of EPA regarding asbestos is listed under Section 112 of the CAA entitled "National Emission Standards for Hazardous Air Pollutants" (NESHP). The particular standard, that addresses asbestos is contained in Title 40 of the Code of Federal Regulations (40 CFR) Part 61, Subpart M.

These regulations generally specify emission control requirements for the milling, manufacturing and fabricating of asbestos, for activities associated with the demolition and renovation of asbestos-containing buildings, and for the handling and disposal of asbestos-containing waste material. The major intention of the regulations is to minimize the release of asbestos fibers during all activities involving the handling and processing of asbestos and asbestos-containing material.

SOURCES UNDER SUBPART M

The following activities are regulated by the Asbestos NESHP Regulations:

- Asbestos milling (61.142);
- Roadway surfacing with asbestos-containing material (61.143);
- Manufacture of products using commercial asbestos (61.144);
- Demolition and/or renovation of facilities with asbestos-containing material (61.145);
- Spraying of asbestos-containing material (61.146);
- Fabrication of products containing commercial asbestos (61.147);
- Use of insulating materials that contain commercial asbestos (61.148);
- Waste disposal for asbestos milling (61.149);
- Disposal of asbestos-containing waste generated during manufacturing, demolition, renovation, spraying, and fabricating operations (61.150);
- Closure and maintenance of inactive waste disposal sites (61.151);
- Design and operation of air cleaning devices (61.152);
- Reporting of information pertaining to process control equipment, filter devices, processes that generate asbestos waste, etc. (61.153);

- Operations at active waste disposal sites (61.154); and
- Operations and reporting for facilities that convert asbestos-containing waste material into nonasbestos (asbestos-free) material (61.155).

REGULATORY HISTORY OF THE ASBESTOS NESHAP

The Asbestos NESHAP regulation has been in existence since 1973 and has been amended several times. The following is a summary of the main provisions contained in the original stipulations and subsequent revisions:

- March 31, 1971 - Asbestos listed as a hazardous air pollutant under Section 112.
- April 6, 1973 - Original promulgation developed regulations for:
 - Asbestos mills and manufacturing sources;
 - Asbestos-containing spray-on materials;
 - Use of tailings in roadways;
 - Demolition of buildings containing friable asbestos-containing fireproofing and insulating material;
 - The spraying of asbestos-containing materials on buildings and structures for fireproofing and insulating purposes.
- May 3, 1974 - Regulations were revised to include:
 - Addition of clarifying definitions;
 - Clarification of demolition provisions;
 - Clarification of the no visible emission standard to exclude condensed uncombined water vapor.
- October 14, 1975 - Substantial changes were made including:
 - Addition of fabricators;
 - Inclusion of renovation projects as regulated activities;
 - Prohibition of the use of wet applied and molded insulation (i.e., pipe lagging);
 - Expansion of the scope of the regulation to cover asbestos-containing waste handling and disposal;
 - Inclusion of inactive waste disposal sites that were operated by milling, manufacturing, and fabricating sources.
- March 2, 1977 - Minor changes, mostly addressing definitions.
- June 19, 1978 - Important changes made include:
 - Expansion of the coverage of spraying restriction to prohibit application of asbestos-containing materials for decorative purposes;

- Adoption of provisions to exempt bitumen- or resin-based (i.e., contains material such as tar or asphalt) materials from the spraying restrictions;
 - Repromulgation of certain work practice provisions.
- April 5, 1984 - Repromulgation to make sure that work practice standards could be enforced. In 1978, the United States Supreme Court ruled that EPA's authority to enforce emission standards under the CAA of 1970 did not extend to work practice standards.

The CAA Amendments of 1977 gave EPA clear authority to enforce work practice standards. By repromulgating the standard, EPA removed any doubt that the work practice standards could be enforced. The standard was also reorganized and clarified, and placed in Subpart M.

- October 1990 - Promulgated revisions to clarify standard, promote compliance, and aid enforcement, including:
 - Requirements for milling, manufacturing, and fabricating to monitor and inspect control devices and keep records of monitoring activities;
 - Renotification requirements and other clarifying revisions for demolition and renovation; and
 - Requirements to keep records of waste shipments and waste disposal.

GUIDELINES

The following chapters explain what emission sources are covered by the asbestos NESHAP and what the requirements are for these sources. There is a separate chapter for each section of the regulation. The corresponding section(s) of the regulation are shown in brackets after each chapter heading and major sub-heading (except for definitions). This guide may not in any way be interpreted to alter or replace the coverage or requirements of Subpart M.

ASBESTOS MILLS [61.142]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Asbestos mill
Fugitive sources
Malfunction
Outside air
Owner or operator
Particulate asbestos material
Visible emissions

STANDARD [61.142(a)]

Owners or operators of an asbestos mill must either operate the mill, including fugitive sources, with no visible emissions of asbestos to the outside air or must follow Air Cleaning (61.152) that have been set forth by the NESHAP regulations to clean emissions containing particulate asbestos material before they are released to the outside air.

INSPECTION AND MONITORING REQUIREMENTS [61.142(b)]

Owners or operators of asbestos mills must do the following:

- Monitor for visible emissions (i.e., observe and record) at each potential source of asbestos emissions from any part of the mill facility daily with the monitoring period lasting at least 15 seconds for each source of emissions. Monitoring must be done during daylight hours.
- Inspect each air cleaning device weekly for proper operation and for changes that signal potential malfunctions.
- Record all monitoring and inspections on forms similar to Figures 1 and 2 on pages 3 and 4, respectively. As a minimum, record:
 - Date and time of inspection;
 - Presence or absence of visible emissions;
 - If a fabric filtration control device is used, the condition of fabric filters and presence of dust deposits on the clean side of fabric filters;
 - Corrective actions taken; and
 - Daily hours of air cleaning device operation.
- Furnish upon request and make available during normal business hours, all required records.

- All records of monitoring and inspections must be kept for at least 2 years.
- If visible emissions are observed, owners and operators must submit quarterly reports to the Administrator of the monitoring results. Reports need only be submitted for those quarters in which visible emissions occurred. These reports must be postmarked within 30 days of the end of the calendar quarter.

Exceptions To Monitoring Requirements

If the construction of an air cleaning device is such that weekly inspections cannot be made without dismantling beyond opening the device, then, instead of inspections, a written maintenance plan may be submitted to the Administrator that includes at a minimum, the following:

- Maintenance schedule; and
- Recordkeeping plan.

Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Control device or fugitive emission source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

1. Control device designation or number	_____			
2. Date of inspection	_____	_____	_____	_____
3. Time of inspection	_____	_____	_____	_____
4. Is control device operating properly (yes/no)	_____	_____	_____	_____
5. Tears, holes, or abrasions in bags (yes/no)	_____	_____	_____	_____
6. Dust on clean side of bags (yes/no)	_____	_____	_____	_____
7. Other signs of malfunctions or potential malfunctions (yes/no)	_____	_____	_____	_____
8. Describe other malfunctions or signs of potential malfunctions.	_____			

9. Describe corrective action(s) taken.	_____			

10. Date and time corrective action taken	_____	_____	_____	_____
11. Inspected by				
_____	_____	_____	_____	_____
(Print/Type Name)	(Title)	(Signature)	(Date)	
_____	_____	_____	_____	_____
(Print/Type Name)	(Title)	(Signature)	(Date)	

Figure 2. Air Pollution Control Device Inspection Checklist

ROADWAYS [61.143]

DEFINITIONS

The following terms used in this section are defined in Appendix A.

Asbestos-containing waste material
Asbestos mill
Asbestos tailings
Roadways

STANDARD

Construction or maintenance of a roadway with asbestos tailings or asbestos-containing waste material is not allowed.

EXEMPTIONS [61.143(a), (b), (c)]

Exemptions to this prohibition are allowed for asbestos tailings if they are:

- Used on a temporary roadway on an area of asbestos ore deposits; or
- Used on a temporary roadway at an asbestos mill site and the tailings have been encapsulated with resinous or bituminous binder (i.e., covered or coated with material such as tar or asphalt) and the roadway surface is maintained at least once each year to prevent dust emissions; or
- Encapsulated in asphalt concrete that meets Section 401 of the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects or its equivalent. (This document may be obtained from the Federal Highway Administration.)

MANUFACTURING [61.144]

DEFINITIONS

The following terms used in this section are defined in Appendix A.

Administrator
Asbestos
Commercial asbestos
Fugitive sources
Malfunction
Manufacturing
Outside air
Owner or operator
Particulate asbestos material
Visible emissions

APPLICABILITY [61.144(a)]

The standard for manufacturing applies to the following manufacturing operations using commercial asbestos:

- Cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile products;
- Cement products;
- Fireproofing and insulating materials;
- Friction products (refers primarily to clutch facings, brake pads, and brake linings);
- Paper, millboard, felt;
- Floor tile;
- Paints, coatings, caulks, adhesives, sealants;
- Plastics, rubber materials;
- Chlorine utilizing the asbestos diaphragm technology;
- Shotgun shell wads; and
- Asphalt concrete.

STANDARD [61.144(b)]

Owners or operators of any manufacturing operations to which this section applies must operate with no visible emissions of asbestos to the outside air

from the manufacturing operations, the building or structure the operations are conducted in, or from any other fugitive source; or must follow Air Cleaning (61.152) that have been set forth by the NESHAP regulations to clean emissions containing particulate asbestos material before they are released to the outside air.

Inspection and Monitoring Requirements

Owners and operators of affected manufacturing operations must do the following:

- Monitor for visible emissions (i.e., observe and record) at each potential source of asbestos emissions from any part of the manufacturing facility daily with the monitoring period lasting at least 15 seconds for each source of emissions. Monitoring must be done during daylight hours.
- Inspect each air cleaning device weekly for proper operation and for changes that signal potential malfunctions.
- Record all monitoring and inspections on forms similar to Figures 1 and 2 on pages 3 and 4, respectively. As a minimum, record:
 - Date and time of inspection;
 - Presence or absence of visible emissions;
 - If a fabric filtration control device is used, the condition of fabric filters and presence of dust deposits on the clean side of fabric filters;
 - Corrective actions taken; and
 - Daily hours of air cleaning device operation.
- Furnish upon request and make available during normal working hours, all required records.
- All records of monitoring and inspections must be kept for at least 2 years.
- If visible emissions are observed, then the owner or operator must submit quarterly reports to the Administrator of the monitoring results. Reports need only be submitted for those quarters in which visible emissions occurred. The reports must be postmarked within 30 days of the end of the calendar quarter.

Exceptions To Monitoring Requirements

If the construction of an air cleaning device is such that the weekly inspections cannot be made without dismantling beyond opening the device, then, instead of inspections, a written maintenance plan may be submitted to the Administrator that includes at a minimum, the following:

- Maintenance schedule; and
- Recordkeeping plan.

Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Control device or fugitive emission source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

DEMOLITION AND RENOVATION [61.145]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

- Adequately wet
- Administrator
- Asbestos
- Category I nonfriable asbestos-containing material
- Category II nonfriable asbestos-containing material
- Cutting
- Demolition
- Emergency renovation operation
- Facility
- Facility component
- Friable asbestos material
- Glove bag
- Grinding
- In poor condition
- Installation
- Leak-tight
- Nonscheduled renovation operation
- Outside air
- Owner or operator of a demolition or renovation activity
- Particulate asbestos material
- Planned renovation operations
- Regulated asbestos-containing material
- Remove
- Renovation
- Resilient floor covering
- Strip
- Structural member
- Visible emissions
- Working days

INSPECTION FOR ASBESTOS [61.145(a)]

To determine which of the applicability [61.145(a)], notification [61.145(b)], or emission control [61.145(c)] procedures apply, the owner or operator of a demolition or renovation activity must first thoroughly inspect the facility or the part of the facility where the demolition or renovation will occur for the presence of friable and nonfriable asbestos-containing material.

APPLICABILITY [61.145(a)]

The applicability requirements for this section have been divided into different categories according to the amount of regulated asbestos-containing material in the demolition or renovation activity and the nature of the activity.

Demolitions (Above Cutoff)

If the amount of regulated asbestos-containing material present in a facility being demolished is (1) at least 80 linear meters (260 linear feet) on pipes, or (2) at least 15 square meters (160 square feet) on other facility components, or (3) where the amount of asbestos-containing material on pipes and other components could not be measured before stripping, a total of at least one cubic meter (35 cubic feet) from all facility components in a facility being demolished, all notification requirements [61.145(b)] on pages 3-7, emission control procedures [61.145(c)] on pages 7-11, and waste disposal requirements [61.150] apply.

Demolitions (Below Cutoff)

If the amount of regulated asbestos-containing material present in a facility being demolished is (1) less than 80 linear meters (260 linear feet) on pipes, and (2) less than 15 square meters (160 square feet) on other facility components, and (3) where the amount of asbestos-containing materials on pipes and other components could not be measured before stripping or demolition, the total amount from all facility components in a facility being demolished is less than one cubic meter (35 cubic feet) or there is no asbestos, none of the emission control procedures [61.145(c)] or waste disposal requirements [61.150] apply. The applicable notification requirements [61.145(b)] are listed on pages 3-7.

Demolitions (Ordered)

If the facility is being demolished by an order of the State or local government agency because the facility is structurally unsound and in danger of imminent collapse, the applicable notification requirements [61.145(b)] are described on pages 3-7. The emission control procedures [61.145(c)] that do not apply are those presented under "removal of asbestos-containing material," "removal of units or sections," "stripping regulated asbestos-containing material from facility components within a facility," and "burning of facilities" on pages 7-11. The applicable waste disposal provisions are contained in 61.150.

Renovations (Above Cutoff)

If the amount of regulated asbestos-containing material that will be stripped, removed, dislodged, cut, drilled, or otherwise disturbed in a facility being renovated including nonscheduled renovation operations is (1) at least 80 linear meters (260 linear feet) on pipes, or (2) at least 15 square meters (160 square feet) on other facility components, or (3) where the amount of asbestos-containing material on pipes and other components could not be measured before stripping, a total of at least one cubic meter (35 cubic feet) from all facility components, all notification requirements [61.145(b)] on pages 3-7, emission control procedures [61.145(c)] on pages 7-11, and waste disposal requirements (61.150) apply.

Renovations (Below Cutoff)

If the amount of regulated asbestos-containing material that will be stripped, removed or otherwise disturbed is less than all of the above stated quantities, then none of the notification requirements, emission control procedures, or waste disposal requirements apply.

Renovations (Planned)

Planned renovation operations involving individual nonscheduled operations are subject to all notification requirements [61.145(b)], emission control procedures [61.145(c)], and waste disposal requirements (61.150) if, during a calendar year of January 1 through December 31, the additive amount of regulated asbestos-containing material that will be removed or stripped is predicted to be more than any of the quantities stated above, under "Renovations (Above Cutoff)."

Renovations (Emergency)

If the estimated amount of regulated asbestos-containing materials to be removed or stripped during an emergency renovation that results from a sudden, unexpected event, is more than any of the quantities stated above, under "Renovation (Above Cutoff)," all notification requirements [61.145(b)], emission control procedures [61.145(c)] and waste disposal requirements (61.150), apply.

Exemption

Owners or operators of demolition and renovation operations are exempt from the prohibitions to construct or modify contained in §61.05(a), the application for approval requirements in §61.07, and the notification of startup requirements in §61.09.

NOTIFICATION REQUIREMENTS [61.145(b)]

Notifying Responsibility

Each owner or operator of a demolition or renovation activity subject to this subpart should provide the Administrator with written notices specifying an intention to demolish or renovate a facility and provide updates to these notices when the amount of asbestos-containing material affected changes by as much as 20 percent. The notice should be sent by U.S. mail, by commercial delivery service, or should be hand delivered.

Time Line for Submittal of Notification

The stipulations concerning the appropriate manner of delivery or postmark of the notice depends on the type of demolition and renovation activity. The following notification times have been established:

- Postmarked or delivered at least 10 working days before asbestos stripping or removal work or other activity (such as site preparation

that would break up, dislodge, or similarly disturb asbestos material) begins, if the amount of asbestos affected by the demolition or renovation is at least 80 linear meters (260 linear feet) on pipes or 15 square meters (160 linear feet) on other facility components or, where the amount of asbestos containing material could not be measured prior to stripping, a total of at least one cubic meter (35 cubic feet) from all facility components.

- Postmarked or delivered at least 10 working days before demolition begins if the amount of affected asbestos is less than 80 linear meters (260 linear feet) on pipes or less than 15 square meters (160 linear feet) on other facility components or, where the amount of asbestos containing material could not be measured prior to stripping, a total of less than one cubic meter (35 cubic feet) from all facility components.
- Postmarked or delivered at least 10 working days before the end of the calendar year preceding the year for which the notice is given for planned renovation operations involving nonscheduled operations if the amount of asbestos affected in the renovation activities is more than the previously stated amount.
- Postmarked or delivered as early as possible, but no later than the following working day, after asbestos stripping or removal work or the sanding, grinding, cutting, or abrading of Category I and II nonfriable asbestos-containing material in an emergency renovation activity or a government ordered demolition activity begins.
- If the planned start date of a demolition or renovation operation changes after a notification is submitted, the Administrator must be notified according to the following schedule:
 - If the new start date is later than the original start date, provide a notice by telephone as soon as possible before the original start date and provide a notice in writing as soon as possible before, but no later than, the original start date.
 - If the new start date is earlier than the original start date, provide a notice in writing at least 10 working days before any stripping or removal work begins for demolition and renovation operations where the amount of asbestos affected is above the cutoff and for demolition operations where the amount of asbestos affected is below the cutoff, provide a notice at least 10 working days before demolition begins.
- In no event shall an operation begin on a date other than the date contained in the written notice of the new start date.

Contents of Notification

All notifications must be in a form similar to that shown in Figure 1 on pages 12 and 13. For demolitions (above cutoff and ordered) and for renovations (above cutoff, planned, and emergency), all notifications must contain at least the following information:

- An indication of whether the notice is an original or a revised notification.
- Name, address, and telephone number of the facility owner and operator and the owner or operator of the asbestos removal firm.
- Type of operation: demolition or renovation.
- Facility description including at least the following:
 - Size (square meters [or square feet] and number of floors)
 - Age
 - Present and prior uses
- Procedure, including analytical methods, employed to detect the presence of asbestos-containing material.
- Estimate of the approximate amount of regulated asbestos-containing material to be stripped using the appropriate units, either linear meters (linear feet) for pipes, square meters (square feet) for other facility components, or cubic meters (cubic feet), if the asbestos containing material will be stripped from the facility components without being measured.
- Estimate of the amount of Category I and Category II nonfriable asbestos-containing materials in the affected part of the facility that will not be removed before demolition.
- Location and address, including building number or name and floor or room number, if appropriate, street address, city, county, and State of the facility being demolished or renovated.
- Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition (with the exception of government ordered demolitions) or renovation, and scheduled starting and completion dates of the demolition or renovation.
- The beginning and ending dates of the report period for planned renovation operations involving individual nonscheduled operations.
- Description of planned demolition or renovation work including the demolition and renovation techniques to be used and a description of the affected facility components.
- Description of work practice and engineering controls to be used to comply with the requirements of this standard.
- Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

- Certification that only persons trained as required in paragraph (c)(8) will supervise the stripping and removal of asbestos-containing material (effective 1 year after promulgation).
- Description of procedures for handling the finding of unexpected regulated asbestos-containing material or Category II nonfriable asbestos-containing material that has been crumbled, pulverized, or reduced to powder.
- For government ordered demolitions, include the name, title, and authority of the government representative ordering the demolition, the date an order was issued, and the date the demolition was ordered to begin by a State or local government representative. Attach a copy of the order to the notification.
- For emergency renovations, include the date and hour the emergency occurred, a description of the event and an explanation of how the event has caused unsafe conditions or would cause equipment damage or unreasonable financial burden.
- Name, address, and telephone number of the waste transporter.

For demolitions (below cutoff), all notifications must contain at least the following information:

- An indication of whether the notice is an original or a revised notification.
- Name, address, and telephone number of the facility owner and operator and the owner or operator of the asbestos removal firm.
- Type of operation: demolition or renovation.
- Facility description including at least the following:
 - Size (square meters [or square feet] and number of floors)
 - Age
 - Present and prior uses
- Procedure, including analytical methods, employed to detect the presence of asbestos-containing material.
- Estimate of the approximate amount of regulated asbestos-containing material to be stripped using the appropriate units, either linear meters (linear feet) for pipe, square meters (square feet) for other facility components, or cubic meters (cubic feet), if the asbestos-containing material will be stripped from the facility components without being measured.
- Estimate of the amount of Category I and Category II nonfriable asbestos-containing materials in the affected part of the facility that will not be removed before demolition.

- Location and street address, including building number or name and floor or room number, if appropriate, street address, city, county, and State of the facility being demolished.
- Scheduled starting and completion dates of demolition.
- Description of procedures for handling the finding of unexpected regulated asbestos-containing material or Category II nonfriable asbestos-containing material that been crumbled, pulverized, or reduced to powder.

PROCEDURES FOR ASBESTOS EMISSIONS CONTROL [61.145(c)]

Removal of Asbestos-Containing Material

All regulated asbestos-containing materials must be removed from a facility being demolished or renovated before any activities are carried out that would break up, dislodge or similarly disturb the materials or preclude access to the materials for subsequent removal.

Exceptions From Removal

Regulated asbestos-containing materials do not need to be removed before demolition if:

- The material consists of Category I nonfriable asbestos-containing materials such as packing, gaskets, asphalt roofing, and vinyl floor tile, which is not in poor condition and is not friable; or
- The material is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or
- The material was not accessible for testing and was not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed material and any asbestos contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until final disposal; or
- The materials are Category II nonfriable asbestos-containing materials that are unlikely to become crumbled, pulverized, or reduced to powder during demolition.

Removal of Units or Sections

When a facility component that contains regulated asbestos-containing materials or that is covered or coated with regulated asbestos-containing materials is being taken out of the facility as a unit or in sections, removal must adhere to the following procedures:

- Adequately wet any regulated asbestos-containing materials exposed during cutting or disjoining (i.e., separating or detaching) operations; and
- Carefully lower the units or sections to the floor or to ground level without dropping, throwing, sliding or otherwise damaging or disturbing the regulated asbestos-containing material.

Stripping Regulated Asbestos-Containing Material From Facility Components Within a Facility

When regulated asbestos-containing material is stripped from facility components while they remain in place within a facility, the regulated asbestos-containing material must be adequately wet during the stripping operation.

Stripping Regulated Asbestos-Containing Material from Facility Components that Have Been Taken Out as Units or Sections

When facility components that are covered, coated, or contain regulated asbestos-containing materials are removed from a facility as a unit or in sections, the components must be contained in leak-tight wrapping or the regulated asbestos-containing material must be stripped. If regulated asbestos-containing material is stripped from these components, the following procedures must be used:

- Adequately wet the regulated asbestos-containing material during stripping; or
- Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos materials produced by the stripping;
 - The local exhaust system must exhibit no visible emissions to the outside air; or
 - The system must be designed and operated in accordance with the requirements contained in Air Cleaning (61.152).

Exception From Stripping Regulated Asbestos-Containing Material from Facility Components that Have Been Taken Out as Units or Sections

Stripping of asbestos is not required if the unit or section is a large facility component (excluding beams) such as reactor vessels, large tanks, and steam generators, and the following conditions are met:

- The component can be removed, transported, stored, and reused without disturbing or damaging the asbestos; and
- The component is encased in a leak-tight wrapping that is labeled in accordance with the legend given below during all loading and unloading operations and during storage.

DANGER
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

ASBESTOS DUST HAZARD
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

CANCER AND LUNG DISEASE HAZARD
(1.9 cm (3/4 inch) Sans Serif, Gothic or Block)

Authorized Personnel Only
(14 Point Gothic)

- Spacing between the lines should be at least equal to the height of the upper two lines.

Regulated Asbestos-Containing Materials that Have Been Removed or Stripped

All asbestos-containing materials, including those that have been removed or stripped must be handled as follows:

- Materials must be adequately wet to ensure that they will remain wet until they are collected and contained or treated in preparation for disposal in accordance with the Standard for Waste Disposal for Demolition and Renovation (61.150); and
- Materials must be carefully lowered to the ground or a lower floor without dropping, throwing, sliding, or otherwise damaging them; and
- Materials must be transported to the ground via leak-tight chutes or containers if they have been removed or stripped more than 50 feet above the ground level and were not removed as units or sections.

Exceptions from Wetting

Wetting of regulated asbestos-containing material is not required in the following situations:

- In a renovation where the Administrator has determined that wetting would unavoidably damage equipment or present a safety hazard and one of the following emission control methods is employed:
 - A local exhaust ventilation and collection system to catch the particulate asbestos material; the system must exhibit no visible emissions to the outside air or must be designed and operated in accordance with the requirements contained in Air Cleaning (61.152); or
 - A glove-bag system to contain the particulate asbestos material; or
 - A leak-tight wrapping to contain all asbestos-containing material prior to dismantlement; or
 - Other equivalent methods for which approval has been received from the Administrator based on a determination that it is equivalent to wetting as a means of controlling asbestos emissions.

- If an equivalent alternative is used, a copy of the Administrator's written approval shall be kept at the worksite and available for inspection.
- Regulated asbestos-containing materials contained in leak tight wrapping that have been removed in accordance with the paragraphs on "stripping regulated asbestos-containing material from facility components that have been taken out as units or sections" on page 8, and "exception from wetting" for renovations, on page 4, need not be wetted.
- When the temperature is below freezing at the point of removal. In these cases the owner or operator should:
 - Remove facility components coated or covered with asbestos-containing materials as units or in sections to the maximum extent possible; and
 - During periods when wetting operations are suspended due to freezing temperature, the owner or operator must record the temperature at the beginning, middle, and end of each work day; and
 - Keep daily temperature records available during normal business hours for the Administrator's inspection. The records should be kept at the demolition or renovation site and the owner or operator should retain them for at least 2 years.

Training for Handling of Regulated Asbestos-Containing Material (Effective 1 year After Promulgation)

All asbestos-containing material shall be stripped, removed, and otherwise handled by an owner or operator of a demolition or renovation activity with at least one on-site representative trained in the provisions of this regulation and the means of complying with them. The minimum training will include:

- Applicability of regulations;
- Notification requirements;
- Material identification procedures;
- Control procedures for removals including;
 - Wetting;
 - Local exhaust ventilation;
 - Negative pressure enclosures;
 - Glove-bag procedures; and
 - High Efficiency Particulate Air (HEPA) filters.
- Waste disposal practices;
- Reporting and recordkeeping;
- Asbestos hazards and worker protection.

Records must be kept demonstrating that the required training has taken place and these records must be available for inspection by the Administrator during normal business hours at the demolition and renovation site. This requirement becomes effective one year after promulgation of the regulations. Individuals trained in accordance with this requirement must take a refresher course at least every 2 years.

Wrecking of Structurally Unsound Facilities

When a structurally unsound facility is being demolished by order of State or local governments, that portion of the facility having regulated asbestos-containing materials should be adequately wet during the wrecking operation.

Burning of Facilities

All regulated asbestos containing-materials, including Category I and Category II nonfriable materials must be removed from a facility that is to be destroyed by burning.

X. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:		
XI. DESCRIPTION OF ENGINEERING CONTROLS AND WORK PRACTICES TO BE USED TO CONTROL EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:		
XII. WASTE TRANSPORTER #1		
Name:		
Address		
City:	State:	Zip:
Contact Person:		Telephone:
WASTE TRANSPORTER #2		
Name:		
Address:		
City:	State:	Zip:
Contact Person:		Telephone:
XIII. WASTE DISPOSAL SITE		
Name:		
Address:		
City:	State:	Zip:
Telephone:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV. FOR EMERGENCY RENOVATIONS		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of How the Event Caused Unsafe Conditions or Serious Disruption of Industrial Operations:		
XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVII. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)		
_____ (Signature of Owner/Operator)		_____ (Date)
XVIII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
_____ (Signature of Owner/Operator)		_____ (Date)

Figure 1. Notification of Demolition and Renovation

NOTIFICATION OF DEMOLITION AND RENOVATION

I. FACILITY INFORMATION (Identify owner, removal contractor, and other operator)

OWNER:

Address:

City:

State:

Zip:

Contact:

Tel:

REMOVAL CONTRACTOR:

Address:

City:

State:

Zip:

Contact:

Tel:

OTHER OPERATOR:

Address:

City:

State:

Zip:

Contact:

Tel:

II. TYPE OF NOTIFICATION (O = Original/R = Revised):

III. TYPE OF OPERATION (D = Demolition/R = Renovation):

IV. IS ASBESTOS PRESENT? (Yes/No)

V. FACILITY DESCRIPTION (Include building name, number and floor or room number)

Bldg Name:

Address:

Address:

City:

State:

County:

Site Location:

Building Size

SqMeters:

SqFt:

of Floors:

Age in Years:

Present Use:

Prior Use:

VI. PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

VII. APPROXIMATE AMOUNT OF RACM TO BE REMOVED AND NONFRIABLE ASBESTOS MATERIAL THAT WILL NOT BE REMOVED. SPECIFY THE AMOUNT OF ASBESTOS BELOW.

	RACM To Be Removed	Nonfriable Asbestos Mat- erial Not to Be Removed ----- Category I Category II	
Pipes - Linear Feet			
Pipes - Linear Meters			
Surface Area - Square Feet			
Surface Area - Square Meters			
Volume RACM Off Facility Component - Cubic Feet			
Volume RACM Off Facility Component - Cubic Meter			

VIII. SCHEDULED DATES OF ASBESTOS REMOVAL (MM/DD/YY)

Start:

Completion:

IX. SCHEDULED DATES OF DEMO/RENOVATION (MM/DD/YY)

Start:

Completion:

Continued on page two

Figure 1. Notification of Demolition and Renovation

SPRAYING [61.146]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Friable asbestos material
Outside air
Owner or operator
Particulate asbestos material
Visible emissions

STANDARD FOR BUILDINGS, STRUCTURES, PIPES, AND CONDUITS [61.146(a)]

The owner or operator of an operation in which asbestos-containing materials are spray applied may not use materials that contain more than 1 percent asbestos for spray application on buildings, structures, pipes, and conduits. The determination of asbestos content must be made using the method specified in Appendix A, Subpart F, Title 40 of the Code of Federal Regulations (40 CFR) Part 763, Section 1, Polarized Light Microscopy.

STANDARD FOR EQUIPMENT AND MACHINERY [61.146(b)]

For spray-on application of materials that contain more than 1 percent asbestos on equipment and machinery, the owner or operator of an operation must:

- Notify the Administrator at least 20 days before beginning the spraying operation and include the following information in the notice:
 - Name and address of owner or operator;
 - Location of spraying operation;
 - Procedures to be followed to meet the requirements of this standard.
- Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified in Air Cleaning (61.152) to clean emissions containing
- particulate asbestos material before they are released to the outside air.

EXCEPTIONS TO STANDARDS [61.146(c)]

The requirements of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder (such as asphalt or tar) during spraying and the materials are not friable after drying.

EXEMPTIONS [61.146(d)]

Owners or operators of sources subject to this paragraph are exempt from the prohibition to construct or modify in §61.05(a), the application for approval of construction or modification requirements in §61.07, and notification of startup requirements in §61.09.

FABRICATING [61.147]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Commercial asbestos
Fabricating
Fugitive sources
Malfunction
Outside air
Owner or operator
Particulate asbestos material
Regulated asbestos-containing material
Visible emissions

APPLICABILITY [61.147(a)]

This section applies to the following fabricating operations using commercial asbestos:

- The fabrication of cement building products.
- The fabrication of friction products (refers primarily to clutch facings, brake pads, and brake linings), except those operations that primarily install asbestos friction materials on motor vehicles.
- The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture; bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.

STANDARD [61.147(b)]

Each owner or operator of any of the fabricating operations to which this section applies shall either:

- Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted or from any other fugitive sources; or
- Use the methods specified by Air Cleaning (61.152) to clean emissions containing particulate asbestos material before they reach the outside air.

Inspection and Monitoring Requirements

Owners and operators of fabricating operations must comply with the following:

- Monitor for visible emissions (i.e., observe and record) at each potential source of asbestos emissions from any part of the fabricating facility daily with the monitoring period lasting at least 15 seconds for each source of emissions. Monitoring must be done during daylight hours.
- Inspect each air cleaning device weekly for proper operation and for changes that signal potential malfunctions.
- Record all monitoring and inspections on forms similar to Figures 1 and 2 on pages 3 and 4 respectively. As a minimum record:
 - Date and time of inspection;
 - Presence or absence of visible emissions;
 - If a fabric filtration control device is used, the condition of fabric filters and presence of dust deposits on clean side of fabric filters;
 - Corrective actions taken; and
 - Daily hours of air cleaning device operation.
- Furnish upon request and make available during normal working hours, all required records.
- All records of monitoring and inspections must be kept for at least 2 years.
- If visible emissions are observed, then the owner or operator must submit quarterly reports to the Administrator of the monitoring results. Reports need only be submitted for those quarters in which visible emissions occurred. The reports must be postmarked within 30 days of the end of the calendar quarter.

Exceptions To Monitoring Requirements

If the construction of an air cleaning device is such that the weekly inspections cannot be made without dismantling beyond opening the device, then, instead of inspections, a written maintenance plan may be submitted to the Administrator that includes at a minimum, the following:

- Maintenance schedule; and
- Recordkeeping plan.

Date of inspection (mo/day/yr)	Time of inspection (a.m./p.m.)	Control device or fugitive emission source designation or number	Visible emissions observed (yes/no), corrective action taken	Daily operating hours	Inspector's initials

Figure 1. Record of Visible Emission Monitoring

1. Control device designation or number	_____			
2. Date of inspection	_____	_____	_____	_____
3. Time of inspection	_____	_____	_____	_____
4. Is control device operating properly (yes/no)	_____	_____	_____	_____
5. Tears, holes, or abrasions in bags (yes/no)	_____	_____	_____	_____
6. Dust on clean side of bags (yes/no)	_____	_____	_____	_____
7. Other signs of malfunctions or potential malfunctions (yes/no)	_____	_____	_____	_____
8. Describe other malfunctions or signs of potential malfunctions.	_____			

9. Describe corrective action(s) taken.	_____			

10. Date and time corrective action taken	_____	_____	_____	_____
11. Inspected by				
_____	_____	_____	_____	_____
(Print/Type Name)	(Title)	(Signature)	(Date)	
_____	_____	_____	_____	_____
(Print/Type Name)	(Title)	(Signature)	(Date)	

Figure 2. Air Pollution Control Device Inspection Checklist

INSULATING MATERIALS [61.148]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

- Commercial asbestos
- Facility
- Facility component
- Friable asbestos material
- Owner or operator

STANDARD

An owner or operator of a facility may not install or reinstall any insulating materials on a facility component if these materials contain commercial asbestos and if the materials are either molded and friable or are applied wet and become friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under the Standard for Spraying (61.146).

WASTE DISPOSAL REQUIREMENTS FOR ASBESTOS MILLS [61.149]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Active waste disposal site
Adequately wet
Administrator
Asbestos
Asbestos-containing waste material
Asbestos mill
Asbestos tailings
Asbestos waste from control devices
Facility
Facility component
Friable asbestos material
Fugitive sources
Outside air
Owner or operator
Particulate asbestos material
Regulated asbestos-containing material
Visible emissions
Waste generator
Waste shipment record
Working days

APPLICABILITY [61.149]

This section applies to each owner or operator of any source covered under the provisions of the Standards for Asbestos Mills (61.142).

STANDARD [61.149(a)(b)(c)]

Each owner or operator of any asbestos mill source shall:

- Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of the Standard for Active Waste Disposal Sites (61.154); and
- Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by Air Cleaning (61.152) to clean emissions; and
- Dispose of the asbestos waste from control devices in accordance with [61.150(a)], or by discharging no visible emissions or by using the procedures contained in "waste disposal methods for asbestos-containing waste material" on page 2; and

- Discharge no visible emissions to the outside air during the collection, processing, packaging, or transporting of any asbestos-containing waste material or use one of the disposal methods described below in "waste disposal methods for asbestos-containing waste material."

Waste Disposal Methods for Asbestos-Containing Waste Material

- Use a wetting agent as follows:
 - Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent; and
 - Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by Air Cleaning (61.152) to clean emissions.
 - Wetting may be suspended when the ambient temperature at the waste disposal site is less than -9.5 °C (15 °F). When wetting operations are suspended, hourly temperature recordings must be kept and the records retained for at least 2 years in a form suitable for inspection.
- Use an alternative treatment that has received approval by the Administrator.

Obtaining Approval for Alternative Treatment

To obtain approval for an alternative treatment, a written request must be submitted to EPA. The request must demonstrate that the following criteria are met:

- The method controls asbestos emissions to levels equivalent to those achieved by currently required methods;
- The method is suitable for the intended application;
- The method will not violate other regulations; and
- The method will not result in increased water pollution, land pollution, or occupational hazard.

TRANSPORTATION OF ASBESTOS-CONTAINING WASTE MATERIAL [61.149(d)]

If asbestos-containing waste material is transported by vehicle to a disposal site, it should be:

- In marked (placarded) vehicles with the signs visible during the loading and unloading of the waste. The markings must:

- Be posted in such a manner that a person can easily read the legend.
- Conform to the requirements for 51 cm. x 36 cm. (20 in. x 14 in.) upright format signs as specified in 29 CFR 1910.145 and this paragraph; and
- Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified below:

DANGER
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

ASBESTOS DUST HAZARD
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

CANCER AND LUNG DISEASE HAZARD
(1.9 cm (3/4 inch) Sans Serif, Gothic or Block)

Authorized Personnel Only
(14 Point Gothic)

- Spacing between the lines should be at least equal to the height of the upper two lines.
- Provide a copy of the waste shipment record described below in "waste shipment record," to the disposal site owner or operator at the same time as the asbestos-containing material arrives at the disposal site.

WASTE SHIPMENT RECORD [61.149(e)]

For all asbestos-containing waste material transported off site:

- Maintain asbestos waste shipment records using a form similar to that shown in Figure 1 that includes the following information:
 - Name, address, and telephone number of the waste generator;
 - Name and address of the local State, or EPA Regional agency responsible for administering the asbestos NESHAP program.
 - Quantity of asbestos-containing waste material in cubic meters or cubic yards;
 - Name and telephone number of the disposal site operator;
 - Name and physical location of the disposal site;
 - Date transported;
 - Name, address and telephone number of the transporter(s); and
 - A certification that the contents of the shipment are accurately described and classified and that they are packaged properly to meet all applicable international and government transport regulations.
- Retain a copy of the asbestos waste shipment record for at least 2 years.
- If a copy of the waste shipment record signed by the owner or operator of the waste disposal site has not been returned to the generator within 35 days from the date the waste was accepted by the initial transporter, the generator must contact the transporter and/or the

owner or operator of the waste disposal site to determine the status of the shipment.

- If a copy of the waste shipment record signed by the owner or operator of the waste disposal site has not been returned to the generator within 45 days from the date the waste was accepted by the initial transporter, the generator must submit a written report to the agency responsible for administering the asbestos NESHAP program for the waste generator. The report must include:
 - a copy of the waste shipment record for which a copy signed by the owner or operator of the waste disposal site was not received.
 - A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
- Furnish upon request, and make available during normal business hours for inspection, all records required under this section.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
	5. Description of materials		6. Containers No. Type	7. Total quantity m ³ (yd ³)
	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/typed name & title		Signature	Month Day Year	
Transporter	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
Disposal Site	12. Discrepancy indication space			
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.			
	Printed/typed name & title		Signature	Month Day Year

(Continued)

Figure 1. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 1. Waste Shipment Record

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 1. Waste Shipment Record

STANDARD FOR WASTE DISPOSAL FOR MANUFACTURING, FABRICATING, DEMOLITION, RENOVATION, AND SPRAYING OPERATIONS [61.150]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Active waste disposal site
Adequately wet
Administrator
Asbestos
Asbestos-containing waste materials
Asbestos waste from control devices
Category I nonfriable asbestos-containing material
Category II nonfriable asbestos-containing material
Demolition
Fabricating
Facility
Facility component
Friable asbestos material
Leak-tight
Manufacturing
Outside air
Owner or operator
Particulate asbestos material
Regulated asbestos-containing material
Renovation
Visible emissions
Waste generator
Waste shipment record

APPLICABILITY [61.150]

This section applies to each owner or operator of any of the following sources:

- Manufacturing (61.144);
- Fabricating (61.147);
- Demolition (61.145);
- Renovation (61.145); and
- Spraying (61.146).

EMISSION CONTROL STANDARD [61.150(a)]

Each owner or operator of any of the above sources must discharge no visible emissions to the outside air during the collection, processing (including

incineration), packaging, or transporting of any asbestos-containing material generated by the source, or use one of the following treatments:

- Adequately wet asbestos-containing waste material as follows:
 - Mix control device asbestos waste to form a slurry and adequately wet other asbestos-containing waste material; and
 - Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by Air Cleaning (61.152) to clean emissions containing particulate asbestos material; and
 - After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and
 - Label the containers or wrapped materials using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels must be printed in letters of sufficient size and contrast to be readily visible and legible.
 - For asbestos-containing waste material that is to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.
 - This provision does not apply to Category I nonfriable asbestos-containing materials or Category II nonfriable asbestos-containing materials that do not become crumbled pulverized, or reduced to powder during demolition or renovation.
- Process asbestos-containing waste material into nonfriable forms as follows:
 - Form all asbestos-containing waste material into nonfriable pellets or other shapes; and
 - Discharge no visible emissions to the outside air from collection and processing operations or use the method specified by Air Cleaning (61.152) to clean emissions containing particulate asbestos material.
 - This provision does not apply to Category I nonfriable asbestos-containing materials or Category II nonfriable asbestos-containing materials that do not become crumbled, pulverized, or reduced to powder during demolition or renovation.
- For facilities that are demolished without removing the regulated asbestos-containing materials and for ordered demolitions, the material must be adequately wet after the demolition has occurred and again when loading the material for transport to a disposal site. Asbestos-containing materials covered by this paragraph may be transported in bulk without being placed in leak-tight containers or wrapping.
- Use an alternative treatment that has received prior approval by EPA.

- These treatment methods for asbestos-containing waste materials do not apply to Category I nonfriable asbestos-containing material and Category II nonfriable asbestos-containing materials that do not become crumbled pulverized, or reduced to powder during demolition or renovation.

Obtaining Approval for Alternative Treatment

To obtain approval for an alternative treatment, a written request must be submitted to EPA. The request must demonstrate that the alternative method meets the following criteria:

- The method controls asbestos emissions to levels equivalent to those achieved by currently required methods;
- The method is suitable for the intended application;
- The method will not violate other regulations; and
- The method will not result in increased water pollution, land pollution, or occupational hazard.

DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL [61.150(b)]

All asbestos-containing waste material, except Category I nonfriable asbestos-containing waste material that has not been sanded, ground, cut, or abraded, must be deposited as soon as is practical at:

- A waste disposal site operated in accordance with the Standard for Active Waste Disposal Sites (61.154); or
- An EPA-approved site that converts regulated asbestos-containing material and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the Standard for Sites that Convert Asbestos-Containing Waste Material into Nonasbestos (Asbestos-Free) Material (61.155).

TRANSPORTATION OF ASBESTOS-CONTAINING WASTE MATERIAL [61.150(c)]

If asbestos-containing waste material is transported by vehicle to a disposal site, it should be:

- In marked (placarded) vehicles with the signs visible during loading and unloading of the waste. The markings must:
 - Be posted in such a manner that a person can easily read the legend.
 - Conform to the requirements for 51 cm. x 36 cm. (20 in. x 14 in.) upright format signs as specified in 29 CFR 1910.145 and this paragraph; and
 - Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified below:

DANGER
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

ASBESTOS DUST HAZARD
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

CANCER AND LUNG DISEASE HAZARD
(1.9 cm (3/4 inch) Sans Serif, Gothic or Block)

Authorized Personnel Only
(14 Point Gothic)

- Spacing between the lines should be at least equal to the height of the upper two lines.
- Provide a copy of the waste shipment record described below in "waste shipment record," to the disposal site owner or operator at the same time as the asbestos-containing material arrives at the disposal site

WASTE SHIPMENT RECORD [61.150(d)]

For all asbestos-containing waste material transported off the facility site:

- Maintain waste shipment records using a form similar to that shown in Figure 1 that includes the following information:
 - Name, address, and telephone number of the waste generator;
 - Name and address of local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.
 - Quantity of asbestos-containing waste material in cubic meters or yards;
 - Name and telephone number of the disposal site operator;
 - Name and physical location of the disposal site;
 - Date transported;
 - Name, address and telephone number of the transporter(s); and
 - A certification that the contents of the shipment are accurately described and that the material is packaged properly to comply with all applicable international and government transport regulations.
- Retain a copy of the asbestos waste shipment record for at least 2 years.
- If a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site has not been returned to the generator within 35 days from the date the waste was accepted by the initial transporter, the generator must contact the transporter and/or the owner or operator of the designated waste disposal site to determine the status of the shipment.
- If a copy of the shipment record signed by the owner or operator of the designated waste disposal site has not been returned to the generator within 45 days of the date the waste was accepted by the

initial transporter, the generator must submit a written report to the agency responsible for administering the asbestos NESHAP program for the waste generator that contains the following:

- A copy of the waste shipment record, and
- A letter explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
- Furnish upon request, and make available during normal business hours for inspection, all records under this section.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
	5. Description of materials		6. Containers No. Type	7. Total quantity m ³ (yd ³)
	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/typed name & title		Signature	Month Day Year	
Transporter	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
Disposal Site	12. Discrepancy indication space			
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.			
	Printed/typed name & title		Signature	Month Day Year

(Continued)

Figure 1. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 1. Waste Shipment Record

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 1. Waste Shipment Record

STANDARD FOR INACTIVE WASTE DISPOSAL SITES FOR ASBESTOS MILLS AND MANUFACTURING AND FABRICATING OPERATIONS [61.151]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Asbestos containing waste materials
Asbestos mill
Asbestos tailings
Fabricating
Facility
Inactive waste disposal site
Manufacturing
Natural barrier
Outside air
Owner or operator
Regulated asbestos-containing material
Visible emissions

APPLICABILITY [61.151]

This section applies to each owner or operator of any inactive disposal site that was operated by and received deposits of asbestos-containing material generated by any one of the following sources:

- Asbestos Mills (61.142);
- Manufacturing (61.144); or
- Fabricating (61.147).

STANDARD [61.151(a)]

Each owner or operator of any inactive disposal site from any of the above sources shall comply with one of the following:

- Discharge no visible emissions to the outside air from an inactive waste disposal site; or
- Cover the asbestos-containing material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing material.
 - In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or

- Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or
- For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based (i.e., contains material such as tar or asphalt) dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the above cover and vegetation methods. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. Used, spent, or other waste oil is not considered a dust suppression agent.

PUBLIC NOTICE OF INACTIVE WASTE DISPOSAL SITE [61.151(b)]

Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the cover and vegetation requirements of paragraph (a) of this section must be met.

- Warning signs must be displayed at all entrances and at intervals of 100 meters (330 feet) or less along the property line of the site along the perimeter of the sections of the site where asbestos-containing material is deposited. The warning signs must:
 - Be posted in such a manner and location that a person can easily read the legend; and
 - Conform to the requirements of 51 cm. x 36 cm. (20 in. x 14 in.) upright format signs specified in 29 CFR 1910.145 (d)(4) and this paragraph; and
 - Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified:

Asbestos Waste Disposal Site
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

Do Not Create Dust
(1.9 cm (3/4 inch) Sans Serif, Gothic or Block)

Breathing Asbestos is Hazardous to Your Health
(14 Point Gothic)

- Spacing between the lines should be at least equal to the height of the upper two lines.
- The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

- When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.

ALTERNATIVE CONTROL METHODS [61.151(c)]

The owner or operator may use an alternative control method that has received prior approval of EPA rather than comply with the requirements of paragraph (a) or (b) of this section.

DISTURBANCE OF ASBESTOS-CONTAINING WASTE MATERIAL [61.151(d)]

Written notice must be provided to the Administrator at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited in a waste disposal site. The following information should be included in the notification:

- Scheduled starting and completion dates;
- Reason for disturbing the site;
- Procedures to be used to control emissions; and
- Location of any temporary storage site to be used and the location of the final disposal site.

DISCLOSURE OF INACTIVE STATUS [61.151(e)]

Within 60 days after a site becomes inactive, a notation must be made on the deed of the facility property and on any other documents that may be examined in a title search, to notify potential purchasers of the property that:

- The land has been used for the disposal of asbestos-containing waste;
- A survey plot (i.e., map) containing a record of the location and quantity of asbestos-containing waste disposed of within the site has been filed with the Administrator; and
- The site is subject to the requirements of the National Emission Standard for Asbestos in 40 CFR 61 Subpart M (i.e., to this regulation).

AIR CLEANING [61.152]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Owner or operator
Particulate asbestos material
Visible emissions

STANDARD [61.152(a)]

Owners or operators who elect to use air-cleaning, as permitted in several provisions of this standard, must:

- Use a fabric filter collection device (i.e., a baghouse) for cleaning emissions of particulate asbestos material operated in the following manner:
 - At a pressure drop of no more than 4 inches water gage, as measured across the fabric filter;
 - With an airflow permeability that does not exceed 9 cubic meters of gas per minute flowing through a square meter of cloth ($\text{m}^3/\text{min}/\text{m}^2$) ($30 \text{ ft}^3/\text{min}/\text{ft}^2$) for woven fabrics or $11 \text{ m}^3/\text{min}/\text{m}^2$ ($35 \text{ ft}^3/\text{min}/\text{ft}^2$) for felted fabrics.
 - If the filtering air is from an asbestos ore dryer, then airflow permeability must not exceed $12 \text{ m}^3/\text{min}/\text{m}^2$ ($40 \text{ ft}^3/\text{min}/\text{ft}^2$) for woven and $14 \text{ m}^3/\text{min}/\text{m}^2$ ($45 \text{ ft}^3/\text{min}/\text{ft}^2$) for felted fabrics.
 - If felted fabrics are used, the weight must be at least 475 grams per square meter (14 ounces per square yard) and the material must be at least 1.6 millimeters (one-sixteenth inch) thick throughout.
 - If synthetic fabrics are used, only spun fill yarn may be used.
- The fabric filter collection device should be properly installed, used, operated, and maintained. Bypass devices may be used only during upset or emergency conditions and for only as long as needed to shut down the faulty operation.
- For fabric filter collection devices installed after the revised asbestos NESHAP proposal date of January 10, 1989, the owner or operator should provide for easy inspection for faulty bags.

EXEMPTIONS FROM THE USE OF A FABRIC FILTER COLLECTION DEVICE [61.152(b)]

There are several situations under which owners and operators are exempt from the use of fabric filter collection devices. They are:

- Where the fabric filter collection device creates a fire or explosion hazard and is installed after January 10, 1989, or the Administrator determines that use of a fabric filter is not feasible. Under these circumstances, the Administrator may authorize the use of wet collectors as a substitute for the fabric filter collection device. If used, the wet collectors must be designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure);
- Where a high efficiency particulate air (HEPA) filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles is used; or
- Where alternative filtering equipment authorized by EPA is used. The EPA may authorize the use of alternative filter equipment if the owner or operator has demonstrated to EPA's satisfaction that the alternative equipment is equivalent to either the previously described fabric filter collection device, the wet collector, or the HEPA filter in filtering particulate asbestos materials.

REPORTING [61.153]

DEFINITIONS

The following terms used in this section are defined Appendix A:

- Active waste disposal site
- Administrator
- Asbestos-containing waste materials
- Demolition
- Owner or operator
- Renovation
- Roadways
- Startup

STANDARD [61.153(a)]

Notification of New Source With Startup Before Effective Date (i.e., Promulgation Date)

Any new sources to which this subpart applies (with the exception of roadways, demolition and renovation, spraying and insulating materials) which has an initial start-up date preceding the effective date of this revision, shall provide the information listed below under Reporting Requirements to the Administrator within 90 days of the effective date.

Notification of New Source With Start Up After Effective Date

In the case of a new source which did not have an initial start-up date preceding the effective date, the information shall be provided within 90 days of the initial start-up date.

Notification of Existing Source

Any owner or operator of an existing source shall provide the information to the Administrator within 90 days of the effective date, unless the information was previously provided to the Administrator. Any changes in the information provided by any existing source shall be provided to the Administrator within 30 days after the change.

Reporting Requirements

The following information must be provided using the format shown in Appendix A, 40 CFR Part 61, as a guide:

- A description of the emission control equipment used for each process;
- If a fabric filter device is used to control emissions:
 - The airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$ ($\text{ft}^3/\text{min}/\text{ft}^2$), if the fabric filter device uses a woven fabric;

- Whether the fill yarn is spun or not spun, if the fabric filter device uses a synthetic fabric; and
 - The density in g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $\text{m}^3/\text{min}/\text{m}^2$ ($\text{ft}^3/\text{min}/\text{ft}^2$), if the fabric filter device uses a felted fabric.
- If a HEPA filter is used to control emissions, the certified efficiency of the filter.

Additional Reporting Requirements by Source

For sources subject to the Standards for Waste Disposal for Asbestos Mills, Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations (61.149 and 61.150), the following additional information must be provided:

- A brief description of each process that generates asbestos-containing waste;
- The average volume of asbestos-containing waste material disposed of, measured in cubic meters (cubic yards), per day;
- The emission control methods used in all stages of waste disposal; and
- The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

For sources subject to the Standard for Inactive Waste Disposal Sites for Asbestos Mills and Manufacturing and Fabricating Operations (61.151) or the Standard for Active Waste Disposal Sites (61.154), the following additional information must be provided:

- A brief description of the site; and
- The method or methods used to comply with the standard, or alternative procedures to be used.

ACCOMPANIMENT REQUIREMENT [61.153(b)]

The information required by paragraph (a) of this section must accompany the information required by the source reporting and waiver request in §61.10. Roadways, demolition and renovation, spraying and insulating materials are exempted from providing information related to the source description and emission controls used that is required in §61.10(a).

STANDARD FOR ACTIVE WASTE DISPOSAL SITES [61.154]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

- Active waste disposal site
- Administrator
- Asbestos
- Asbestos-containing waste materials
- Facility
- Friable asbestos material
- Inactive waste disposal site
- Leak-tight
- Natural barrier
- Outside air
- Owner or operator
- Particulate asbestos material
- Regulated asbestos-containing material
- Visible emissions
- Waste generator
- Waste shipment record

APPLICABILITY [61.154]

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from the following sources regulated under the asbestos NESHA shall meet the requirements of this subpart:

- Asbestos Mills (61.142);
- Manufacturing (61.144);
- Fabricating (61.147);
- Demolition and Renovation (61.145);
- Spraying (61.146); and
- Waste Conversion Processes (61.155).

STANDARD [61.154(a)]

Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements discussed in "alternatives to visible emissions requirements" on pages 2 and 3 must be met.

PUBLIC NOTICE OF ACTIVE WASTE DISPOSAL SITES [61.154(b)]

Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the compacted nonasbestos cover requirements described below in "alternatives to visible emissions requirements" of this section must be met.

- Warning signs must be displayed at all entrances and at intervals of 100 meters (330 feet) or less along the property line of the site along the perimeter of the sections of the site where asbestos-containing material is deposited. The warning signs must:
 - Be posted in such a manner and location that a person can easily read the legend; and
 - Conform to the requirements of 51 cm. x 36 cm. (20 in. x 14 in.) upright format signs specified in 29 CFR 1910.145 (d)(4) and this paragraph; and
 - Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified below in this paragraph.

Asbestos Waste Disposal Site
(2.5 cm (1 inch) Sans Serif, Gothic or Block)

Do Not Create Dust
(1.9 cm (3/4 inch) Sans Serif, Gothic or Block)

Breathing Asbestos is Hazardous to Your Health
(14 Point Gothic)

- Spacing between any two lines must be at least equal to the height of the upper line.
- The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.
- Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access to the general public.

ALTERNATIVES TO VISIBLE EMISSIONS REQUIREMENTS [61.154(c)(d)]

Rather than meet the no visible emission requirement in paragraph (a) of this section, an owner or operator of an active waste disposal site may:

- At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, cover the asbestos-containing waste material which was deposited at the site during the operating day or the previous 24-hour period with:
 - At least 15 centimeters (6 inches) of compacted nonasbestos-containing material, i.e., soil, or

- A resinous or petroleum-based (i.e., contains material such as tar or asphalt) dust suppression agent which effectively binds dust and controls wind erosion. Any used, spent, or other waste oil is not considered a dust suppression agent.
- Use an alternative control method for emissions that has received prior approval by EPA.

Obtaining Approval for Alternative Treatment

To obtain approval for an alternative treatment, a written request must be submitted to the Administrator. The request must demonstrate that the following criteria are met:

- The method controls asbestos emissions to levels equivalent to those achieved by currently required methods;
- The method is suitable for the intended application;
- The method would not violate other regulations; and
- The method would not result in increased water pollution, land pollution, or occupational hazard.

RECORDKEEPING REQUIREMENTS [61.154(e)(f)(i)]

For all asbestos-containing waste material received, the owner or operator shall:

- Maintain records, using a form similar to that shown in Figure 1, that include the following information:
 - Name, address, and telephone number of waste generator;
 - Name, address, and telephone number of transporter;
 - Quantity of asbestos-containing waste material in cubic meters;
 - Presence of improperly enclosed or uncovered waste not sealed in leak-tight containers; and
 - Date of receipt.
- Send a copy of the waste shipment record to the waste generator as soon as possible and no longer than 30 days after receiving the waste.
- Retain copies of the records for at least two years.
- Upon discovering a discrepancy in recorded and actual waste amounts, attempt to reconcile the discrepancy with the waste generator within 15 days after receipt of the waste. If the discrepancy cannot be resolved within 15 days, submit a report immediately to the local, State, or EPA regional office responsible for administering the asbestos NESHAP for the waste generator and, if different, to the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP for the disposal site, that describes the discrepancy

and attempts made to reconcile it, and a copy of the waste shipment record.

- Report the presence of a significant amount of improperly enclosed or uncovered waste, by the following working day, to the NESHAP agency responsible for the waste generator, and if different, to the NESHAP agency responsible for the disposal site. Submit a copy of the waste shipment record along with a cover letter explaining the incident.
- Furnish upon request and make available during normal business hours for inspection by the Administrator all records required under this section.
- Maintain until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area.

CLOSURE OF ACTIVE WASTE DISPOSAL SITE [61.154(g)(h)(i)]

Upon closure of an active waste disposal site, the owner or operator shall:

- Comply with all the provisions in the Standard for Inactive Waste Disposal Sites (61.151); and
- Submit to the Administrator a copy of records of asbestos waste disposal locations and quantities.

DISTURBANCE OF ASBESTOS-CONTAINING WASTE MATERIAL [61.154(j)]

Written notice must be provided to the Administrator at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited in a waste disposal site. The following information should be included in the notification:

- Scheduled starting and completion dates;
- Reason for disturbing the site;
- Procedures to be used to control emissions; and
- Location of any temporary storage site to be used and the location of the final disposal site.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
	5. Description of materials		6. Containers No. Type	7. Total quantity m ³ (yd ³)
	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/typed name & title		Signature	Month Day Year	
Transporter	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
Disposal Site	12. Discrepancy indication space			
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.			
	Printed/typed name & title		Signature	Month Day Year

(Continued)

Figure 1. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 1. Waste Shipment Record

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 1. Waste Shipment Record

STANDARD FOR SITES THAT CONVERT ASBESTOS-CONTAINING WASTE INTO NONASBESTOS (ASBESTOS-FREE) MATERIAL [61.155]

DEFINITIONS

The following terms used in this section are defined in Appendix A:

Administrator
Asbestos
Asbestos-containing waste materials
Outside air
Owner or operator
Particulate asbestos material
Regulated asbestos-containing material
Startup
Visible emissions

STANDARD

This section involves the incorporation of new requirements for operations that convert asbestos-containing waste into nonasbestos material. The category is divided into sections dealing with the operations surrounding the conversion of asbestos-containing waste and the appropriate recordkeeping associated with the operations.

APPROVAL FOR CONVERSION SITE [61.155(a)]

Owners or operators of an operation that converts asbestos-containing waste material into nonasbestos (asbestos-free) material must meet the following requirements:

- Obtain written approval from EPA before construction of a conversion process begins.
- To obtain approval, the following information must be provided to EPA:
 - An application to construct pursuant to 61.07;
 - A description of waste feed handling and temporary storage;
 - A description of process operating conditions;
 - A description of end product handling and temporary storage;
 - A description of the protocol to be followed when analyzing output materials by transmission electron microscopy;
 - The performance test protocol; and
 - Upon request by the Administrator, a demonstration of the conversion process.

CONDUCTING A START-UP PERFORMANCE TEST [61.155(b)]

When conducting a start-up performance test, the test results should include the following information:

- Detailed description of the types and quantities of nonasbestos material and asbestos-containing waste processed;
- Documentation of test results to determine the asbestos content of the waste processed, using polarized light microscopy;
- Documentation of test results demonstrating that the output material is free of asbestos, using transmission electron microscopy;
- Description of operating parameters defining the full range over which the process is expected to operate; and
- The length of the test.

OPERATIONS (THE FIRST 90 DAYS) [61.155(c)]

During the initial 90 days of operation, the owners or operators must:

- Continuously monitor and log the operating parameters specified during start-up performance tests as a means of ensuring that the output material is asbestos free; and
- Monitor all input materials to ensure that they are within the range used during the startup tests; and
- Collect and analyze, by transmission electron microscopy, samples of all output material for the presence of asbestos. All output material must be stored on site until the analysis shows that the material is asbestos-free. Otherwise, the output must be disposed of as asbestos-containing waste material according to the Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations (61.150).

OPERATIONS (AFTER THE FIRST 90 DAYS) [61.155(d)]

After the initial 90 days of operation, the owners or operators must:

- Continuously monitor and record the operating parameters identified during the initial performance and any subsequent performance test.
- Handle any product that is produced during a period when the operating parameters are outside the range of operating conditions that is indicative of asbestos-free product in one of the following ways:
 - Dispose of as asbestos-containing waste material according to the Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation and Spraying Operations (61.150);
 - Recycle as waste feed during a period when the operating parameters are within the range indicative of asbestos-free product; or
 - Store temporarily on-site until analyzed for asbestos content (Any product determined by the analysis to contain asbestos, shall be disposed of as asbestos-containing waste or recycled).

- Collect and analyze monthly composite samples (one 200 gm. [7 oz.] sample collected every 8 hours of operation) of the output material. Transmission electron microscopy shall be used to analyze the output material for the presence of asbestos.

EMISSION CONTROL STANDARD [61.155(e)]

Owners or operators must discharge no visible emissions to the outside air or use the methods specified in Air Cleaning (61.152) to clean emissions containing particulate asbestos materials before they escape to, or are vented to, the outside air.

RECORDKEEPING REQUIREMENTS [61.155(f)]

Owners or operators of such an operation should maintain records of all operating activities, including the following:

- Results of start-up performance test and any subsequent test;
- Results of all composite analyses conducted during the initial 90 days;
- Results of the monthly composite analysis;
- Results of continuous monitoring and logs of process operating parameters;
- Information on waste shipments received;
- Records of the name and location of the purchaser or disposal site and the date of sale or deposit for output material that was not analyzed for asbestos content; and
- Retain all records for at least 2 years.

NOTIFICATION REQUIREMENTS [61.155(g)]

Owners or operators must submit two types of reports to the Administrator:

- A report for each analysis of product composite samples taken during the initial 90 days of operation.
- A quarterly report concerning activities of the conversion operations during each consecutive 3-month period which contains:
 - Results of analyses of monthly product composite samples;
 - Description of any deviation from the operating parameters, its duration, and the corrective action taken;
 - Disposition of any product produced during a period when the operating parameters were outside the range indicative of asbestos-free product; and

- Information on waste disposal activity as required in the Standard for Active Waste Disposal Sites (61.154).

EXEMPTIONS [61.155(h)]

Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is detected, or output materials produced when the operating parameters deviated from those established during the start-up performance testing, unless shown by transmission electron microscopy (TEM) analysis to be asbestos free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to the Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations (61.150) or reprocessed while all of the established operating parameters are being met.

APPENDIX A

DEFINITIONS 61.02

Administrator means the Administrator of the Environmental Protection Agency or his authorized representative.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.

Startup means the setting in operation of a stationary source for any purpose.

DEFINITIONS 61.141

Active waste disposal site means any disposal site other than an inactive site.

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

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos-containing materials including disposable equipment and clothing.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected in a pollution control device.

Category I nonfriable asbestos-containing material 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 A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy.

Category II nonfriable asbestos-containing material means any material, excluding Category I nonfriable asbestos-containing material, containing more than 1 percent asbestos as determined using the methods specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

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

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

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, debonding, grinding, cutting, drilling, or other similar operations performed as part of fabricating.

Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any 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 and 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 of function.

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, 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 polarized light microscopy, (PLM), verify the asbestos content by point counting using PLM.

Fugitive source means any source of emissions not controlled by an air pollution control device.

Glove bag means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used, glove bags provide a small work area enclosure typically used for small-scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA) final rule on occupational exposure to asbestos (Appendix G to 29 CFR 1926.58).

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

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material has not been deposited within the past year.

In poor condition means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

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

Leak-tight means that solids or liquids cannot escape or spill out. It also means dust-tight.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner so that emissions of asbestos are increased. Failures of equipment shall not be considered malfunctions if they are caused in any way by poor maintenance, careless operations, or any other preventable upset conditions, equipment breakdown, or process failure.

Manufacturing means the combining of commercial asbestos--or, in the case of woven friction products, the combining of textiles containing commercial asbestos--with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

Natural Barrier means a natural object that effectively precludes or deters access. Natural barriers include physical obstacles such as cliffs, lakes or other large bodies of water, deep and wide ravines, and mountains. Remoteness by itself is not a natural barrier.

Nonfriable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Nonscheduled renovation operation means a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given period based on past operating experience, but for which an exact date cannot be predicted.

Outside air means the air outside building and structures, including, but not limited to, the air under a bridge or in an open ferry dock.

Owner or operator of a demolition or renovation activity means any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

Planned renovation operations means a renovation operation, or a number of such operations, in which some regulated asbestos-containing material will be removed or stripped within a given period of time and that can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Regulated asbestos-containing material means (a) friable asbestos material, (b) Category I nonfriable asbestos-containing material that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable asbestos-containing material that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

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

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing material from a facility component. Operations in which load-supporting structural members are wrecked or taken out are demolitions.

Resilient floor covering means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than 1 percent asbestos as determined using polarized light microscopy according to the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy.

Roadways means surfaces on which motor vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

Strip means to take off regulated asbestos-containing materials from any part of a facility or facility components.

Structural member means any load supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

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

Waste generator means any owner or operator or a source covered by this subpart whose act or process produces asbestos-containing waste material.

Waste shipment record means the shipping document, required to be originated and signed by the generator, used to track and substantiate the disposition of asbestos-containing waste material.

Working days means Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 1 CT, MA, ME NH, RI, VT	Asbestos NESHAP Coordinator Air Management Division US EPA JFK Building Boston, MA 02203 (617) 565-3265	Regional Asbestos Coordinator US EPA JFK Federal Building Boston, MA 02203 (617) 565-3835
Region 2 NJ, NY PR, VI	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA 26 Federal Plaza New York, NY 10278 (212) 264-6770	Regional Asbestos Coordinator US EPA Woodbridge Avenue Edison, NJ 08837 (201) 321-6671
Region 3 DE, DC, MD PA, VA, WV	Asbestos NESHAP Coordinator Air and Toxics Division US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-8683	Regional Asbestos Coordinator US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-3160
Region 4 AL, FL, GA, KY, MS, NC, SC, TN	Asbestos NESHAP Coordinator Air, Pesticide & Toxics Div. US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014	Regional Asbestos Coordinator US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014
Region 5 IL, IN, MI MN, OH, WI	Asbestos NESHAP Coordinator Air & Radiation Division US EPA 230 South Dearborn Street Chicago, IL 60604 (312) 886-6793	Regional Asbestos Coordinator US EPA 230 South Dearborn St. Chicago, IL 60604 (312) 886-6003

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 6 AR, LA, NM OK, TX	Asbestos NESHAP Coordinator Air, Pesticides & Toxics Div. US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7233	Regional Asbestos Coordinator Air, Pesticides & Toxics Div. US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7244
Region 7 IA, KS MO, NE	Asbestos NESHAP Coordinator Air & Toxics Division US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7618	Regional Asbestos Coordinator Air & Toxics Division US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7020
Region 8 CO, MT, ND SD, UT, WY	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 294-7685	Regional Asbestos Coordinator US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 293-1442
Region 9 AS, AZ, CA, HI NV, GU, TT	Asbestos NESHAP Coordinator Air Management Division US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1135	Regional Asbestos Coordinator US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1128
Region 10 AK, ID OR, WA	Asbestos NESHAP Coordinator Air & Toxics Management Div. US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-1757	Regional Asbestos Coordinator US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-4762

Item 2 -

**Asbestos/NESHAP Regulated Asbestos Containing
Materials Guidance**

United States
Environmental Protection
Agency

EPA 340/1-90-018
December 1990

Air and Radiation (EN4341W)



Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance

ASBESTOS

A large, stylized graphic of a cloud of asbestos dust or fibers, rendered in black and white, filling the lower half of the page. The cloud appears to be rising from the word "ASBESTOS" and spreading outwards, with many small dots and streaks representing individual fibers or particles.

EPA 340/1-90-018

**ASBESTOS NESHAP
REGULATED ASBESTOS CONTAINING
MATERIALS GUIDANCE**

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Quality Planning and Standards
Stationary Source Compliance Division
Washington, DC 20460**

December, 1990

CONTENTS

Section	Page
1. INTRODUCTION	6
2. FRIABLE ASBESTOS-CONTAINING MATERIALS ...	8
3. NON-FRIABLE ASBESTOS-CONTAINING MATERIALS	9
• Category I Nonfriable ACM	10
• Category II Nonfriable ACM	11
4. INSPECTION PROCEDURES TO DETERMINE THE POTENTIAL FOR FIBER RELEASE FROM NONFRIABLE ASBESTOS-CONTAINING MATERIALS	13
• Friability Determination Decision Trees	14
• General Inspection Procedures	16
• Specific Inspection Procedures	17
• Category I Nonfriable ACM	17
• Category II Nonfriable ACM	19
APPENDICES	
A Asbestos NESHAP Coordinators (For Demolition/Renovation Activities).....	A - 1
B Regional Asbestos Coordinators (For Schools)	B-1

ACKNOWLEDGEMENTS

This document was written by Alliance Technologies, Inc., based on discussions with a work group from EPA. The group consisted of the Regional Asbestos NESHAP Coordinators, Ron Shafer, Scott Throwe, and Omayra Salgado of the Stationary Source Compliance Division, Charles Garlow and Elise Hoerath of the Air Enforcement Division and Sims Roy of the Standards Development Branch. We thank the individuals who reviewed an earlier draft and provided comments, many of which are incorporated in the final version. Their input is gratefully acknowledged.

1. INTRODUCTION

Section 112 of the Clean Air Act (CAA) requires EPA to develop emission standards for hazardous air pollutants. In response to this section the Environmental Protection Agency (EPA) published a list of hazardous air pollutants and promulgated the "National Emission Standards for Hazardous Air Pollutants" (NESHAP) regulations. Since asbestos presents a significant risk to human health as a result of air emissions from one or more source categories, it is therefore considered a hazardous air pollutant. The Asbestos NESHAP (40 CFR 61, Subpart M) addresses milling, manufacturing and fabricating operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites and asbestos conversion processes.

In the initial Asbestos NESHAP rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed and those materials that were unlikely to result in significant fiber release. The terms "friable" and "non-friable" were used to make this distinction. EPA has since determined that, if severely damaged, otherwise nonfriable materials can release significant amounts of asbestos fibers.

Friable asbestos-containing material (ACM), is defined by the Asbestos NESHAP, as any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. (Sec. 61.141)

Nonfriable ACM is any material containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy

(PLM), that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. EPA also defines two categories of nonfriable ACM, Category I and Category II nonfriable ACM, which are described later in this guidance.

"Regulated Asbestos-Containing Material" (RACM) is (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

The purpose of this document is to assist asbestos inspectors and the regulated community in determining whether or not a material is RACM and thus subject to the Asbestos NESHAP.

The recommendations made in this guidance are solely recommendations. They are not the exclusive means of complying with the Asbestos NESHAP requirements. Following these recommendations is not a guarantee against findings of violation. The EPA intends for owners/operators to be reasonably certain whether or not they are subject to the NESHAP. In the end, if a question arises, determinations of whether asbestos containing materials are regulated by the Asbestos NESHAP are made by EPA inspectors on site.

2. FRIABLE ASBESTOS CONTAINING-MATERIALS

Due to their high tensile strength, incombustibility, corrosion and friction resistance and other properties, such as acoustical and thermal insulation abilities, asbestos fibers have been incorporated into over 3600 commercial products. Thermal system, fireproofing and acoustical insulation materials have been used extensively in the construction industry.

Thermal system applications include steam or hot water pipe coverings and thermal block insulation found on boilers and hot water tanks. Fireproofing insulation may be found on building structural beams and decking. Acoustical insulation (soundproofing) commonly has been applied as a troweled-on plaster in school and office building stairwells and hallways. Unfortunately, with time and exposure to damaging forces (e.g., severe weather, chemicals, mechanical forces, etc.), many asbestos-containing materials may become crumbled, pulverized or reduced to powder, thereby releasing asbestos fibers, or may deteriorate to the extent that they may release fibers if disturbed. Since inhalation of asbestos fibers has been linked to the development of respiratory and other diseases, any material which is friable, or has a high probability of releasing fibers, must be handled in accordance with the Asbestos NESHAP.

The following work practices should be followed whenever demolition/renovation activities involving RACM occur:

- notify EPA of intention to demolish/renovate,
- remove all RACM from a facility being demolished or renovated before any disruptive activity begins or before access to the material is precluded,

- keep RACM adequately wet before, during, and after removal operation,
- conduct demolition/renovation activities in a manner which produces no visible emissions to the outside air, and
- handle and dispose of all RACM in an approved manner.

3. NONFRIABLE ASBESTOS-CONTAINING MATERIALS

Because of the resilient nature of asbestos, it is used in materials exposed to a wide variety of stressful environments. These environments can cause the deterioration of binding materials and cause nonfriable materials to become friable. For example, asbestos-containing packings and gaskets (Category I nonfriable ACM) used in thermal systems may be found in poor condition as a result of the heat they have encountered. In petrochemical handling facilities, which may have miles of transfer pipes and fittings which contain asbestos gaskets and/or packings, profound degradation of the ACM may occur due to exposure to organic-based liquids and gases or to corrosive agents used to chemically clean these lines.

When nonfriable ACM is subjected to intense mechanical forces, such as those encountered during demolition or renovation, it can be crumbled, pulverized, or reduced to powder, and thereby release asbestos fibers. When nonfriable materials are damaged or are likely to become damaged during such activities, they must be handled in accordance with the Asbestos NESHAP.

There are two categories of nonfriable materials: Category I Nonfriable ACM and Category II Nonfriable ACM.

CATEGORY I NONFRIABLE ACM

Category I nonfriable ACM is any asbestos-containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than 1 percent asbestos as determined using polarized light microscopy (PLM) according to the method specified in Appendix A, Subpart F, 40 CFR Part 763. (Sec. 61. 141)

Category I nonfriable ACM must be inspected and tested for friability if it is in poor condition before demolition to determine whether or not it is subject to the Asbestos NESHAP. If the ACM is friable, it must be handled in accordance with the NESHAP. Asbestos-containing packings, gaskets, resilient floor coverings and asphalt roofing materials must be removed before demolition *only if* they are in poor condition and are friable.

The Asbestos NESHAP further requires that if a facility is demolished by intentional burning, all of the facility's ACM, including Category I and II nonfriable ACM, be considered RACM and be removed prior to burning (Sec. 61.145 (c)(10)). Additionally, if Category I or Category II nonfriable ACM is to be sanded, ground, cut, or abraded, the material is considered RACM and the owner or operator must abide by the following (Sec. 61.145 (c)(1)):

- (i) Adequately wet the material during the sanding, grinding, cutting, or abrading operations.
- (ii) Comply with the requirements of 61.145(c)(3)(i) if wetting would unavoidably damage equipment or present a safety hazard.
- (iii) Handle asbestos material produced by the sanding, grinding, cutting, or abrading, as asbestos-containing waste material subject to the waste handling and collection provisions of Section 61.150.

CATEGORY II NONFRIABLE ACM

Category II nonfriable ACM is any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using polarized light microscopy according to the methods specified in Appendix A, Subpart F, 40 CFR Part 763 that, when dry, *cannot* be crumbled, pulverized, or reduced to powder by hand pressure. (Sec. 61.141)

Category II nonfriable ACMs (cement siding, transite board shingles, etc.) subjected to intense weather conditions such as thunderstorms, high winds or prolonged exposure to high heat and humidity may become "weathered" to a point where they become friable. The photograph in Figure 1 demonstrates a split asbestos shingle that has become friable along the cracked edge.

The following table lists examples and other relevant information about Category I and Category II nonfriable ACM.

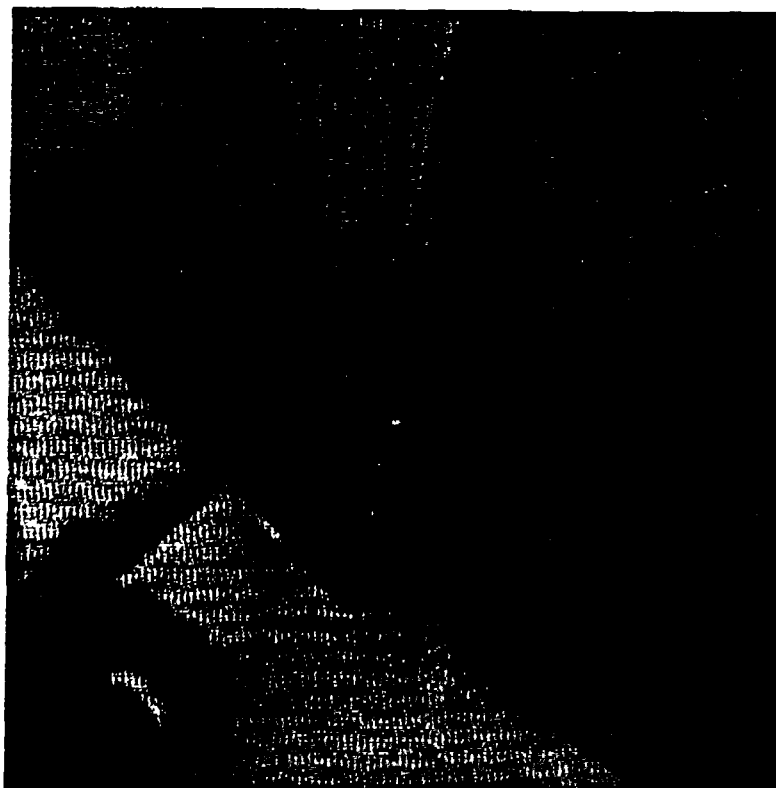


Figure 1. Nonfriable asbestos shingle which has become friable along the broken axis.

TABLE 1. NONFRIABLE ASBESTOS PRODUCTS

Subdivision	Generic name	Asbestos (%)	Binder/sizing
Cementitious extrusion panels: concrete-like products (Category II)		8	portland cement
	corrugated	20-45	portland cement
	flat	40-50	portland cement
	flexible	30-50	portland cement
	flexible perforated	30-50	portland cement
	laminated	35-50	portland cement
	(outer surface)		
	roof tiles	20-30	portland cement
	clapboard and shingles:		
	clapboard	12-15	portland cement
	siding shingles	12-14	portland cement
	roofing shingles	20-32	portland cement
	pipe	20-15	portland cement
Roofing felts (Category I)	smooth surface	10-15	asphalt
	mineral surface	10-15	asphalt
	shingles	1	asphalt
	pipeline	10	asphalt
Asbestos-containing compounds (Category I and II)	caulking putties	30	linseed oil
	adhesive (cold applied)	5-25	asphalt
	roofing asphalt	5	asphalt
	mastics	5-25	asphalt
	asphalt tile cement	13-25	asphalt
	roof putty	10-25	asphalt
	plaster/stucco	2-10	portland cement
	sealants fire/water	50-55	castor oil or polyisobutylene
	cement, insulation	20-100	clay
	cement, finishing	55	clay
	cement, magnesia	15	magnesium carbonate
Asbestos ebony products		50	portland cement
Floor tile and vinyl/asbestos tile		21	poly(vinyl)chloride
Sheet goods asphalt/asbestos tile		25-33	asphalt
sheet goods/resilient		30	dry oils

From EPA Guidance entitled "Guidance for Controlling Asbestos-Containing Materials in Buildings" (Purple Book), Appendix A, Page A-1; EPA 560/5-85-024.

Except for the following, Section 61.145(c) of the Asbestos NESHAP requires that each owner or operator of a demolition or renovation activity involving RACM remove all such material from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal.

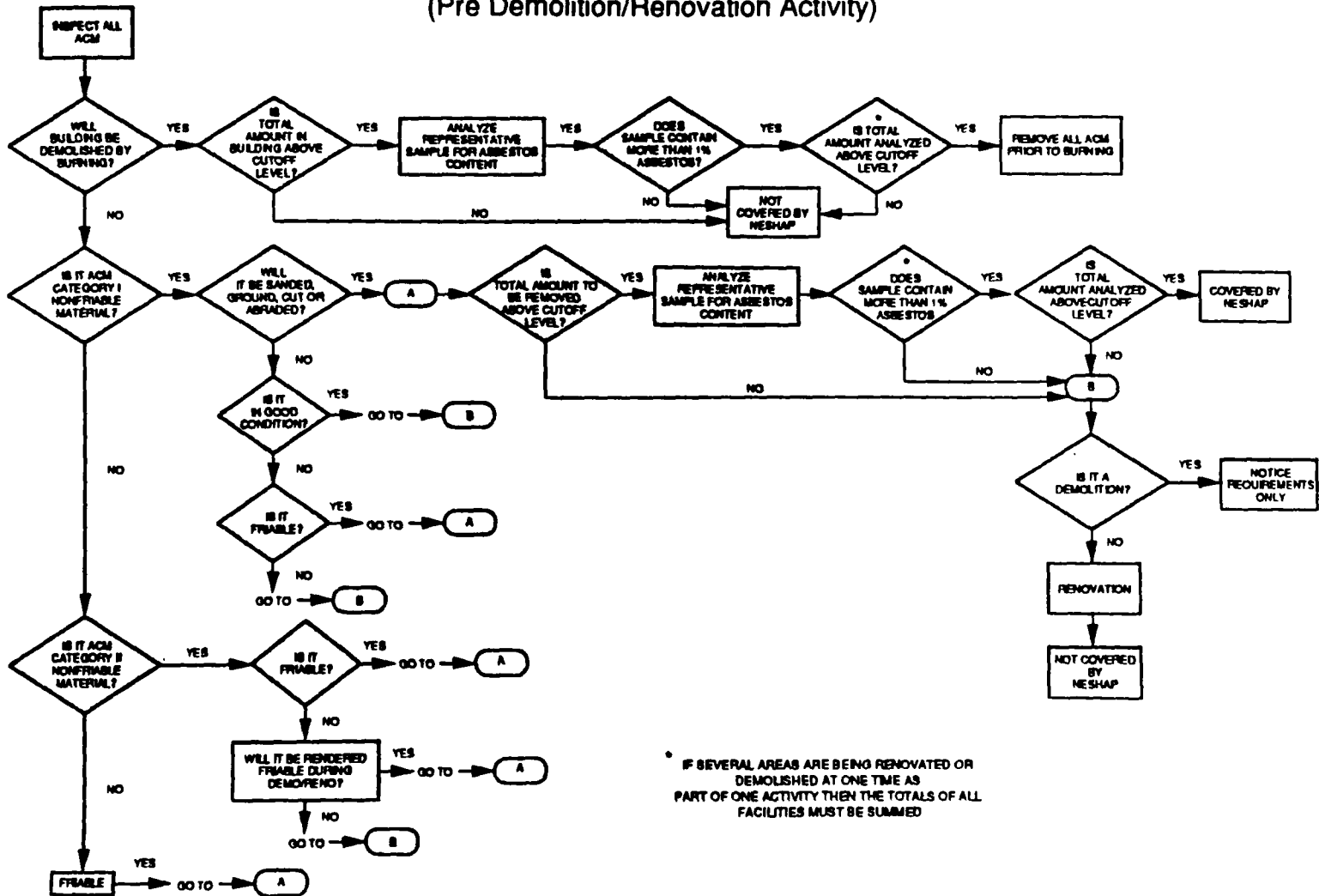
ACM need not be removed before demolition if it:

- (i) Is a Category I nonfriable ACM that is not friable.
- (ii) Is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition.
- (iii) Was not accessible for testing and therefore was not discovered until after demolition began and, as a result of the demolition, cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of.
- (iv) Is a Category II nonfriable ACM and the probability is low that the material will become crumbled, pulverized, or reduced to powder during demolition.

4. INSPECTION PROCEDURES TO DETERMINE THE POTENTIAL FOR FIBER RELEASE FROM NONFRIABLE ASBESTOS-CONTAINING MATERIALS

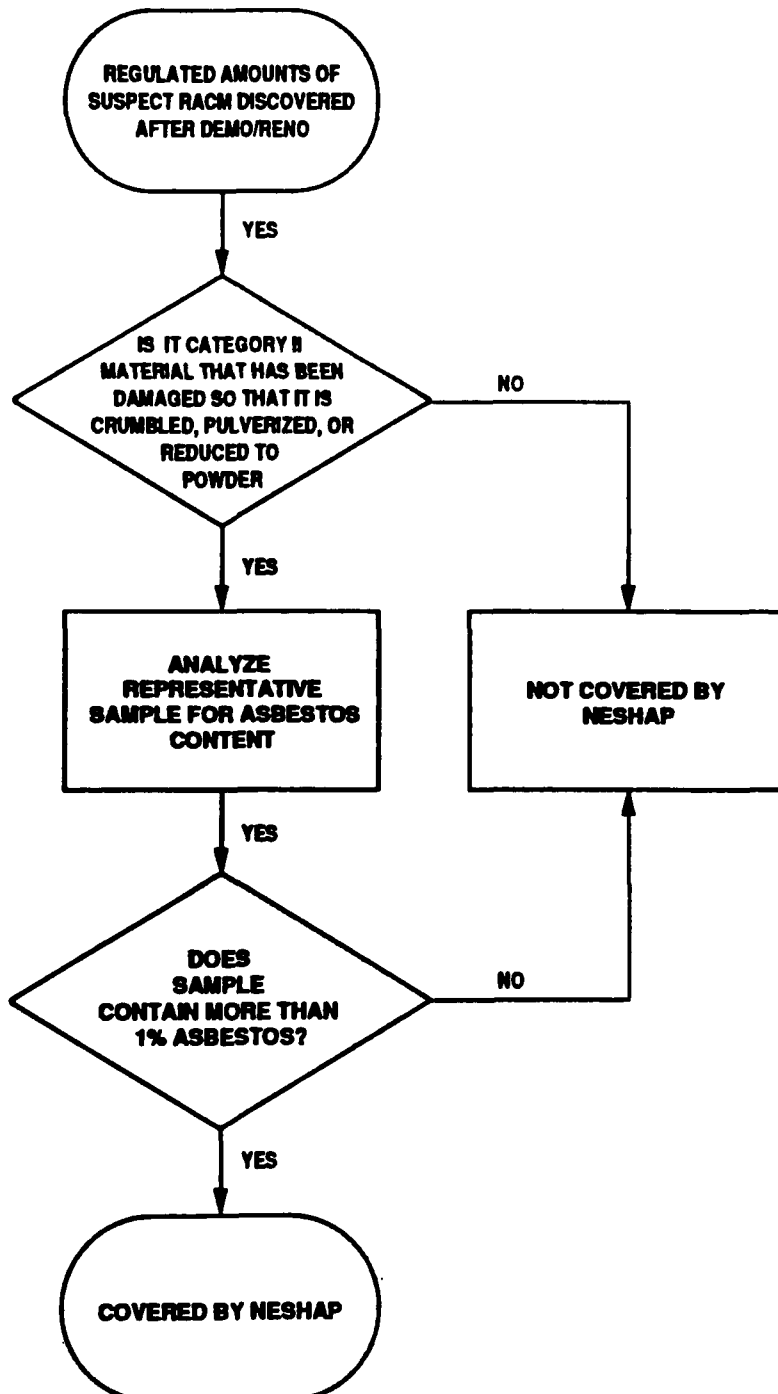
Members of the regulated community (i.e. abatement contractors, industrial hygienists, building owners & operators, etc.) should become familiar with these procedures as they are designed to enhance compliance with the Asbestos NESHAP.

Asbestos NESHAP RACM Decision Tree (Pre Demolition/Renovation Activity)



* IF SEVERAL AREAS ARE BEING RENOVATED OR DEMOLISHED AT ONE TIME AS PART OF ONE ACTIVITY THEN THE TOTALS OF ALL FACILITIES MUST BE SUMMED

Asbestos NESHAP RACM Decision Tree
(Post Demolition/Renovation Activity)



GENERAL INSPECTION PROCEDURES

1. Identify all nonfriable suspect ACM and determine whether it is Category I or II.
2. If it is Category I nonfriable RACM:
 - Is it in "poor condition?"
[Is the binding of the ACM losing its integrity? Is the ACM peeling, cracking, or crumbling?
(Remember, friable ACM may not appear in poor condition.)]
 - Is it friable?
 - Collect a piece of dry ACM and seal it in a transparent, reclosable sample bag.
 - Apply hand pressure and observe if the ACM falls apart to the extent that it is crumbled, pulverized, or reduced to powder. Does it occur suddenly, all at once?
 - Send representative samples of the RACM to an analytical laboratory which is able to test them for the presence of asbestos according to the methods specified in 40 CFR Part 763 Subpart F, Appendix A.
 - Ask the owner/operator if any ACM or RACM has been sampled and analyzed. If so, determine where the samples were taken and ask if the methods of demolition/renovation were considered when assessing

the fiber release potential of the material.-
Will it or has it been subjected to sanding,
grinding, cutting or abrading?

3. If it is Category II nonfriable ACM:

- Has the material been crumbled, pulverized or reduced to powder or is there a high probability that it will be crumbled, pulverized or reduced to powder during the demolition/renovation operations, thus rendering the material friable and subject to the Asbestos NESHAP?
- If Category II nonfriable ACM has been or will be crumbled, pulverized, or reduced to powder by demolition or renovation forces, take representative samples and send them to a laboratory to test for the presence of asbestos according to the method specified in 40 CFR Part 763, Subpart F, Appendix A.

5. SPECIFIC INSPECTION PROCEDURES

Category I Nonfriable ACM

Packings and Gaskets

These materials are often very difficult to find because they are usually placed inside ovens, doors, pipes, boilers, etc.

Often a packing or gasket is discovered during a stripping or demolition activity. For example, some boilers have an asbestos-containing paraffin wax packing between the steam lines that travel between the mud and fire boxes. The paraffin binding of the packing may decompose due to the high temperatures, and render the packing friable. Observe all of the packing and note areas that are in poor condition. Packings in poor condition appear dry and

discolored, and fibers may be visible.

A representative piece of asbestos-containing packing material (in good or poor condition) should be removed with a utility knife and sealed in a transparent, reclosable bag. Apply hand pressure to the packing in the sample bag to determine if any portion is crumbled, pulverized or reduced to powder. If the material simply deforms, but does not crumble or reduces to a powder, then the material is considered nonfriable.

Resilient Floor Covering

There is a wide variety of resilient floor covering applications that contain asbestos. The most common are linoleum flooring and vinyl asbestos tile (VAT). VAT is most commonly found in either a 9"x9" or a 12"x12" square size. The 9"x9" VAT's are normally found in older buildings because they were manufactured earlier than the 12"x12" VAT's; however, floor tile sizes and resilient floor covering applications vary greatly since many buildings have been re-tiled several times.

In order to determine if a resilient floor covering is in poor condition look for sections or tiles which are cracked or peeling to the extent that they are crumbled. Floor coverings in poor condition can often be found near doorways or loading/staging areas where the floor has sustained a lot of stress and traffic. If the floor covering is in poor condition, collect a small representative sample and seal it in a transparent, sample bag. Hand pressure should be applied to determine if the material can be crumbled, pulverized, or reduced to powder. If it can, the material is considered friable. Resilient floor covering that will be or has been sanded, ground or abraded is subject to the Asbestos NESHAP. Figure 2 depicts a VAT which is in poor condition.

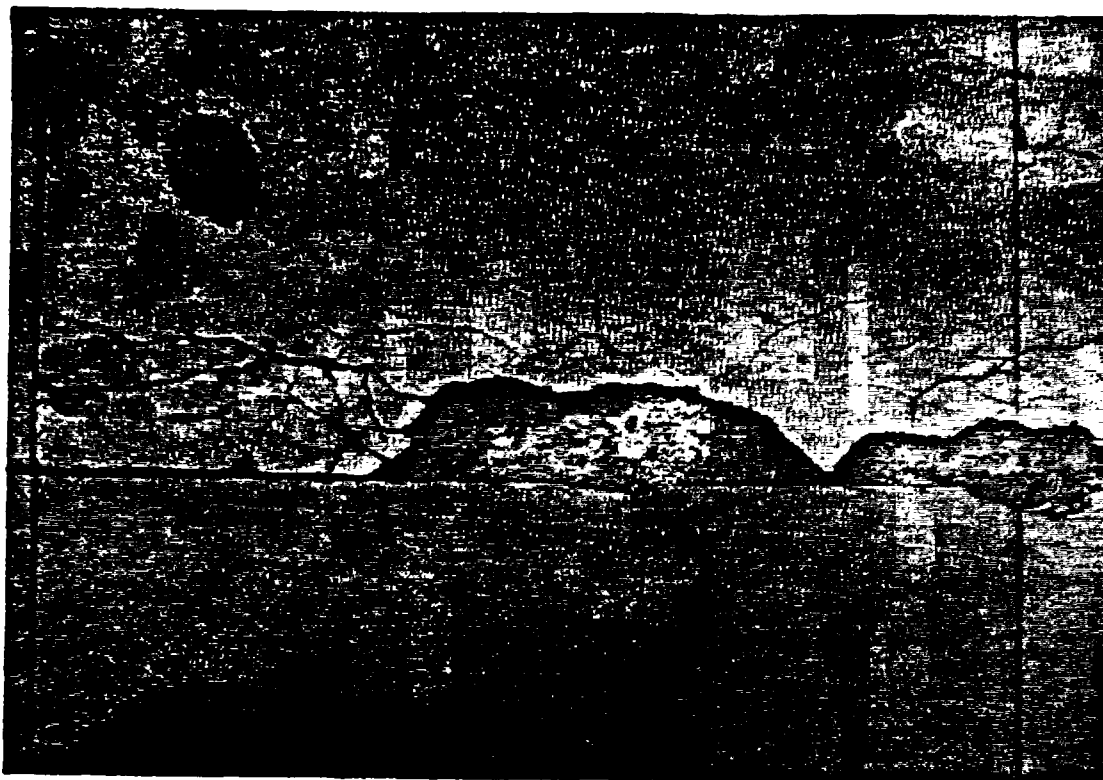


Figure 2. VAT in poor condition

Asphalt Roofing Products

Asbestos-containing roofing felts have been widely used in "built-up" roofs. Built-up roofing was used on flat surfaces and consists of alternating layers of roofing felt and asphalt. The roofing felt consists of asbestos paper saturated and coated with asphalt. Asphalt-asbestos roofing products made from roofing felt coated with asphalt were reportedly used on residential structures for only a short time (1971-1974).

To determine if an asphalt roofing product is covered by the Asbestos NESHAP, examine the RACM to spot any areas where the material is in poor condition and friable. Figure 3 illustrates a section of roofing felts which have deteriorated and display fibers.

If possible, sample areas where fibers can be seen protruding from the matrix of the asphalt. The sample should be sealed into a transparent, reclosable sample bag and hand pressure applied to see if the sample can be crumbled, pulverized, or reduced to powder.



Figure 3. Asphalt roofing felts which are in poor condition. Notice the fibers protruding along the edge of this roofing felt.

Category II Nonfriable ACM

Asbestos Cement Pipe and Sheet Products

Asbestos-cement (A-C) pipe has been widely used for water and sewer mains and occasionally used as electrical conduits, drainage pipe, and vent pipes. A-C sheet, manufactured in flat or corrugated panels and shingles (transite board), has been used primarily for roofing and siding, but also for cooling tower fill sheets, canal bulkheads, laboratory tables, and electrical switching gear panels. If these ACM are crumbled, pulverized or reduced to a powder, they are friable and thus covered by the Asbestos NESHAP. Broken edges of these materials typically are friable. The fractured surface should be rubbed to see if it produces powder.

If Category II nonfriable ACM has not crumbled, been pulverized or reduced to powder and will not become so during the course of demolition/renovation operations, it is considered nonfriable and therefore is not subject to the Asbestos NESHAP. However, if during the demolition or renovation activity it becomes crumbled, pulverized or reduced to powder, it is covered by the Asbestos NESHAP.

APPENDIX A

ASBESTOS NESHAP COORDINATORS (FOR DEMOLITION/RENOVATION ACTIVITIES)

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region I
JFK Federal Building
Boston, MA 02203
(617) 565-3265
CT, MA, ME, NH, RI, VT**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6819
IL, IN, MI, MN, OH, WI**

**Asbestos NESHAP Coordinator
Air & Waste Management Division
U.S. EPA Region II
26 Federal Plaza
New York, NY 10278
(212) 264-6770
NJ, NY, PR, VI**

**Asbestos NESHAP Coordinator
Air, Pesticides & Toxics Division
U.S. EPA Region VI
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7223
AR, LA, NM, OK, TX**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-6550
DC, DE, MD, PA, VA, WV**

**Asbestos NESHAP Coordinator
Air & Toxics Management Division
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7618
IA, KS, MO, NE**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365
(404) 347-5014
AL, FL, GA, KY, MS, NC, SC, TN**

**Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA Region VIII
999 18th Street
Suite 500
Denver, CO 80202-2405
(303) 293-7685
CO, MT, ND, SD, UT, WY**

Asbestos NESHAP Coordinator
Air and Toxics Division
U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 774-5569
American Samoa, AZ, CA, Guam, HI
Northern Marianas, Trust Territories

Asbestos NESHAP Coordinator
Air & Toxics Management Division
U.S. EPA Region X
1200 Sixth Avenue
Seattle, WA 98101
(205) 442-1757
AK, ID, OR, WA

APPENDIX B

REGIONAL ASBESTOS COORDINATORS (FOR SCHOOLS)

**Regional Asbestos Coordinator
U.S. EPA Region I
JFK Federal Building
Boston, MA 02203
(617) 565-3835
CT, MA, ME, NH, RI, VT**

**Regional Asbestos Coordinator
U.S. EPA Region II
Woodbridge Avenue
Raritan Depot, Building 5
Edison, NJ 08837
(201) 321-6671
NJ, NY, PR, VI**

**Regional Asbestos Coordinator
U.S. EPA Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-3160
DC, DE, MD, PA, VA, WV**

**Regional Asbestos Coordinator
U.S. EPA Region IV
345 Courtland St. N.E.
Atlanta, GA 30365
(404) 347-5014
AL, FL, GA, KY, MS, NC, SC, TN**

**Regional Asbestos Coordinator
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6003
IL, IN, MI, MN, OH, WI**

**Regional Asbestos Coordinator
U.S. EPA Region VI
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7244
AR, IA, NM, OK, TX**

**Regional Asbestos Coordinator
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7020
IA, KS, MO, NE**

**Regional Asbestos Coordinator
U.S. EPA Region VIII
1 Denver Place
999 18th Street
Suite 500
Denver, CO 80202-2413
(303) 293-1442
CO, MT, ND, SD, UT, WY**

Regional Asbestos Coordinator
U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 556-5406
American Samoa, AZ, CA Guam,
Northern Marianas, Trust Territories

Regional Asbestos Coordinator
U.S. EPA Region IV
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-4762
AK, ID, OR, WA

Item 3 -

Asbestos/NESHAP Adeqately Wet Guidance

United States
Environmental Protection
Agency

EPA 340/1-90-019
December 1990

Air and Radiation (EN4341W)



Asbestos/NESHAP Adequately Wet Guidance



ASBESTOS

The word "ASBESTOS" is rendered in large, bold, white capital letters. Above the word, several white lines represent rain falling diagonally. Below the word, white wavy lines represent the surface of water, suggesting the word is being washed away or soaked.

EPA340/1-90-019

**ASBESTOS NESHAP
ADEQUATELY WET GUIDANCE**

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and
Standards
Stationary Source Compliance Division
Washington, DC 20460**

December 1990

CONTENTS

Section	Page
1 INTRODUCTION	1
2 IMPORTANT TERMS	2
• Adequately Wet	2
• Friable Asbestos Material	3
• Nonfriable Asbestos-containing Materials	3
3 FRIABLE AND NONFRIABLE ASBESTOS CONTAINING MATERIALS	4
4 REQUIREMENTS FOR ADEQUATELY WETTING ASBESTOS-CONTAINING MATERIALS	5
5 EXCEPTIONS TO ADEQUATELY WETTING ASBESTOS-CONTAINING MATERIALS	9
6 TECHNIQUES FOR WETTING ASBESTOS-CONTAINING MATERIALS	11
• General Information	11
7 PROCEDURES FOR WETTING ASBESTOS-CONTAINING MATERIALS	12
• Thermal System Insulation	12
• Asbestos-Containing Surfacing Materials	18
• Miscellaneous Asbestos- Containing Materials	18
8 INSPECTION PROCEDURES	21
 Appendices	
A Asbestos NESHAP Coordinators (for Demolition/Renovation Activities)	A-1
B Regional Asbestos Coordinators (for Schools).	B-1

ACKNOWLEDGEMENTS

This document was written by Alliance Technologies, Inc., based on discussions with a work group from EPA. The group consisted of the Regional Asbestos NESHAP Coordinators, Ron Shafer, Scott Throwe, and Omayra Salgado of the Stationary Source Compliance Division, Charles Garlow and Elise Hoerath of the Air Enforcement Division and Sims Roy of the Standards Development Branch. We thank the individuals who reviewed an earlier draft and provided comments, many of which are incorporated in the final version. Their input is gratefully acknowledged.

1. INTRODUCTION

The Clean Air Act (CAA) of 1970 requires the U.S. Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. Asbestos was one of the first hazardous air pollutants regulated under Section 112. The Asbestos NESHAP (40 CFR 61, Subpart M) addresses milling, manufacturing and fabricating operations, demolition and renovation activities, waste disposal issues, active and inactive waste disposal sites and asbestos conversion processes.

The Asbestos NESHAP requires facility owners and/or operators involved in demolition and renovation activities to control emissions of particulate asbestos to the outside air because no safe concentration of airborne asbestos has ever been established. The primary method used to control asbestos emissions is to adequately wet the Asbestos Containing Material (ACM) with a wetting agent prior to, during and after demolition/renovation activities.

The purpose of this document is to provide guidance to asbestos inspectors and the regulated community on how to determine if friable ACM is adequately wet as required by the Asbestos NESHAP.

The recommendations made in this guidance are solely recommendations. They are not the exclusive means of complying with the Asbestos NESHAP requirements. Following these recommendations is not a guarantee against findings of violation. Determinations of whether asbestos materials are adequately wetted are made by EPA inspectors on site.

2. IMPORTANT TERMS

Adequately Wet

EPA defines "adequately wet" to mean "sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emission is not sufficient evidence of being adequately wet (Section 61.141, Definitions). Amended water is often used to wet ACM during repair/removal operations.

Friable Asbestos Material

Friable asbestos material is any material containing more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Asbestos-Containing Waste Materials (ACWM)

EPA defines ACWM to mean mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags on other similar packaging contaminated with commercial asbestos. As applied to demolition and renovation operations, this term also includes friable asbestos waste and Category II nonfriable ACM waste that becomes crumbled, pulverized, or reduced to powder by forces that acted on the material during the course of demolition and renovation operations regulated by this subpart, and materials contaminated with asbestos including disposal equipment and clothing.

Nonfriable Asbestos-containing Materials

Nonfriable asbestos-containing material is any material containing more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated Asbestos-Containing Material (RACM)

Is (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the force expected to act on the material in the course of demolition or renovation operations.

3. FRIABLE AND NONFRIABLE ASBESTOS-CONTAINING MATERIALS

The Asbestos NESHAP defines two categories of nonfriable ACM: Category I nonfriable ACM (asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products) and Category II nonfriable ACM (any nonfriable material not designated as Category I).

The Agency requires that, where the Asbestos NESHAP is applicable, friable ACM and Category II and nonfriable ACM that is likely to become disturbed or damaged so that the material could be

crumbled, pulverized or reduced to powder during a demolition or renovation be removed, from a facility prior to its demolition/renovation. The fibrous or fluffy spray-applied asbestos materials found in many buildings for fireproofing, insulating, sound-proofing, or decorative purposes are generally considered friable. Pipe and boiler wrap found in numerous buildings is also considered friable.

Nonfriable ACM, such as vinyl-asbestos floor tile, generally emits low levels of airborne fibers unless subjected to burning or to sanding, grinding, cutting or abrading operations. Other materials, such as asbestos cement sheet and pipe, can emit asbestos fibers if the materials are crumbled, pulverized or reduced to powder during demolition/renovation activities. Whenever nonfriable materials are going to be damaged to the extent that they are crumbled, pulverized or reduced to powder, they must be handled in accordance with the Asbestos NESHAP.

4. REQUIREMENTS FOR ADEQUATELY WETTING ASBESTOS-CONTAINING MATERIALS

The NESHAP regulation requires that RACM be adequately wetted during the following activities:

- a. **During cutting or disjoining operations when a facility component which is covered or coated with friable ACM is being removed from that facility as units or in sections (Section 61.145 (c)(2)(i)).**

During demolitions or renovations a contractor may choose to remove an entire boiler, a section of pipe, or other facility components without first removing the asbestos insulation from these structures. Any ACM which will be disturbed during cutting or disjoining operations must be adequately wet.

- b. **During stripping operations when a facility component containing RACM remains in place in the facility. (Section 61.145 (c)(3)).**

Stripping operations are the most common form of asbestos removal during renovation activities, since most items that are covered with asbestos are facility components or structural members which will not be removed. Stripping off all of the RACM can generate significant asbestos emissions if the ACM is not adequately wet during removal.

Friable spray-on ACM, which includes fire-proofing materials found on decking and support I-beams, is normally easy to wet throughout because of the absorbing property of the cellulose mixing/binding

agent. The Asbestos NESHAP requires that these materials be fully penetrated with the wetting agent during demolition/renovation activities.

Other ACM, however, such as "thermal-block" insulation used on pipes and boilers, certain ceiling and floor tile applications, etc., which do not absorb water readily may be hard to penetrate by water or a wetting agent. For such materials, adequate wetting consists of coating the surfaces of the materials with water or a wetting agent prior to, during, and, in most cases, after removal activities in order to prevent asbestos emissions. Whenever such materials are broken during the removal process, the exposed, dry surfaces must be wetted immediately to reduce emissions.

If pieces of dry ACM are accidentally disturbed, they should be immediately wetted and kept wet until collected for disposal. Removal personnel are commonly assigned to keep the fallen RACM wet prior to its being collected for disposal.

- c. **After the RACM has been stripped from a facility component, it must remain adequately wet until it has been collected and contained or treated in preparation for disposal. (Section 61.145 (c)(6)(i))**

After removal, adequately wetted ACWM must be sealed in leak-tight containers or wrapping which must be labeled as specified by the Occupational Health and Safety Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). Such waste materials destined for off-site transport must additionally be labeled with the name of the generator and location of the waste generation site (Section 61.150 (a)(1)(iv and v)).

- d. **In demolitions where the RACM was not removed prior to demolition (Section 61.145 (c)(1)(i)(ii)(iii)(iv))**
 - RACM on a facility component encased in concrete or other similarly hard material must be adequately wet whenever exposed during demolitions (Section 61.145 (c)(1)(ii));
 - RACM which was not accessible for testing and, due to demolition, cannot be safely removed, must be kept adequately wet at all times until disposed of (Section 61.145 (c)(1)(iii));
 - The portion of a facility ordered demolished that contains RACM must be adequately wet during the wrecking operation (Section 61.145 (c)(9)).

In each of the above situations, ACWM generated must be kept adequately wet during handling and loading for transport to the disposal site. In cases where ACWM can't be segregated from the debris pile it must be disposed of as ACWM. Such ACWM does not have to be sealed in leak-tight containers or wrapping, but may be transported and disposed of in bulk (Section 61.150 (a)(3)).

5. EXCEPTIONS TO ADEQUATELY WETTING ASBESTOS-CONTAINING MATERIALS

The Asbestos NESHAP allows two exceptions to wetting RACM during a demolition or renovation project:

- **When the temperature at the point of wetting is below 0°C (32°F) (Section 61.145 (c)(7)(i)).**

The owner/operator must remove facility components coated or covered with friable ACM as units or sections to the maximum extent possible and meet subsequent requirements of 61.145, including the wetting requirements.

During periods when wetting operations are suspended due to freezing temperatures, the owner/operator must record the temperature in the area containing the facility components at the beginning, middle, and end of each workday and keep daily temperature records available for inspection by the Administrator during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least 2 years.

- **When the use of water would unavoidably damage equipment or present a safety hazard (Sec. 61.145 (c)(3)(i)(A)).**

The owner/operator must first obtain written approval from the Administrator for an alternative work practice, prior to renovation activities and utilize a local exhaust ventilation and collection system designed to capture particulate asbestos released during removal operations. (Section 61.145 (c)(3)(i)(B)(1)); or a glove bag system or a leak-tight wrapping which can contain the particulate asbestos materials produced by stripping ACM. (Section 61.145 (c)(3)(i)(B)(2) and (3))

6. TECHNIQUES FOR WETTING ASBESTOS-CONTAINING MATERIALS

General Information

Adequate wetting of ACM is typically accomplished by repeatedly spraying it with a liquid or a wetting agent, usually amended water (water to which surfactant chemicals have been added), until it can absorb no more. However, this does not necessarily mean that the ACM will be soaked throughout. Surfactant chemicals reduce the surface tension of the water, thereby increasing its ability to penetrate the ACM and surround the asbestos fibers. Although amending agents are not required by the Asbestos NESHAP (the NESHAP only requires the use of a liquid), EPA, in its "Guidance for Controlling Asbestos-Containing Materials in Buildings", EPA-560/5-85-024 (Purple Book), recommends the use of a 50:50 mixture of polyoxyethylene ester and polyoxyethylene ether, or the equivalent, in a 0.16 percent solution (1 ounce to 5 gallons) of water.

Wetting agents may be applied with garden sprayers or hoses. Garden sprayers are hand-held, portable, and have a one- to five-gallon capacity. Water hoses are usually attached to a faucet tap, fire hydrant or water tank. Generally, the hose has a nozzle attached which spreads the water stream so that a fine mist is created.

An engineering control often used is a misting unit which can be used to create a high level of humidity within a removal area. It is believed that fibers emitted into a saturated environment will absorb the wetting agent and fall out of the air faster, thus reducing airborne fiber levels.

7. PROCEDURES FOR WETTING ASBESTOS-CONTAINING MATERIALS

The following procedures describe methods of adequately wetting various applications of ACM.

Thermal System Insulation

Molded Pipe Insulation

The recommended wetting procedure for this type of RACM is to saturate the outer surface with amended water, strip off the wet canvas coating and then rewet the surface in order to thoroughly saturate the ACM. The metal bands supporting the RACM should be removed and the half-round sections carefully separated. While this occurs, the interior side and edges of the sections should be saturated with amended water. If a section breaks during removal, the exposed surfaces should be wetted immediately. A misting

sprayer may also be used to keep the air in the removal area or containment area saturated with amended water to attempt to reduce airborne asbestos fiber levels.

Corrugated Paper Pipe Insulation

The outer surface of the corrugated paper ("air-cell") pipe insulation, usually a canvas wrap, should be saturated with a wetting agent and then removed. Wetting should continue until all the insulation is permeated with amended water. Metal bands holding the insulation in place should be removed and the corrugated RACM insulation stripped. Any unsaturated surfaces exposed during the stripping operation must be wetted immediately to reduce asbestos emissions. A misting sprayer may also be used to keep the air in the removal area saturated with amended water to attempt to reduce airborne asbestos fiber levels. Inadequately wetted and adequately wetted corrugated paper pipe insulation can be seen in Figures 1 and 2.



**Figure 1. Inadequately wetted corrugated paper, pipe insulation.
(Note the fibrous material adjacent to the lagging clamp.)**

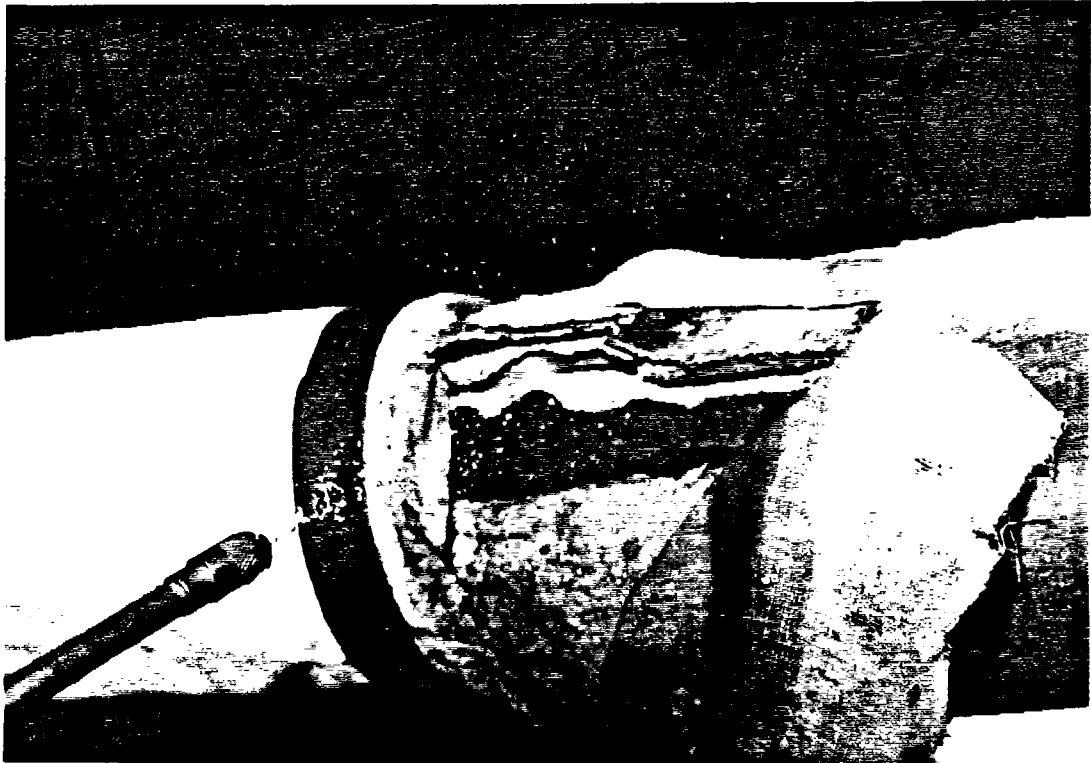


Figure 2. Adequately wetted corrugated paper, pipe insulation.
(Note the saturated material adjacent to the lagging clamp.)

Boiler and Water Tank Thermal Block Insulation

Asbestos-containing preformed block insulation has been used as thermal insulation on boilers, hot water tanks and heat exchangers in industrial, commercial, institutional and residential applications. The blocks are commonly chalky in nature and may be held in place by chicken wire or expanded metal lath. A plaster-saturated canvas was often applied as a final covering or wrap.

Due to the number, thickness and varying absorbencies of these layers of materials, adequate wetting may be accomplished only by continually wetting the materials with amended water as the various layers are stripped.

One person may be assigned to spray the materials as they are stripped, and a misting sprayer may be used in an attempt to reduce airborne asbestos fiber levels.

Cementitious Fitting Insulation

Wetting of cementitious fitting insulation is similar to that used when removing asbestos-containing thermal block insulation. The outer surface is saturated with amended water and the outer covering (if applicable) is removed. The fitting insulation is then rewetted and the insulation stripped. To ensure that the fitting remains adequately wet during the removal operation, a person is often assigned to spray the ACM as it is stripped. A misting sprayer may be used to reduce airborne asbestos fiber levels. Inadequately wetted cementitious fitting insulation can be seen in Figure 3.

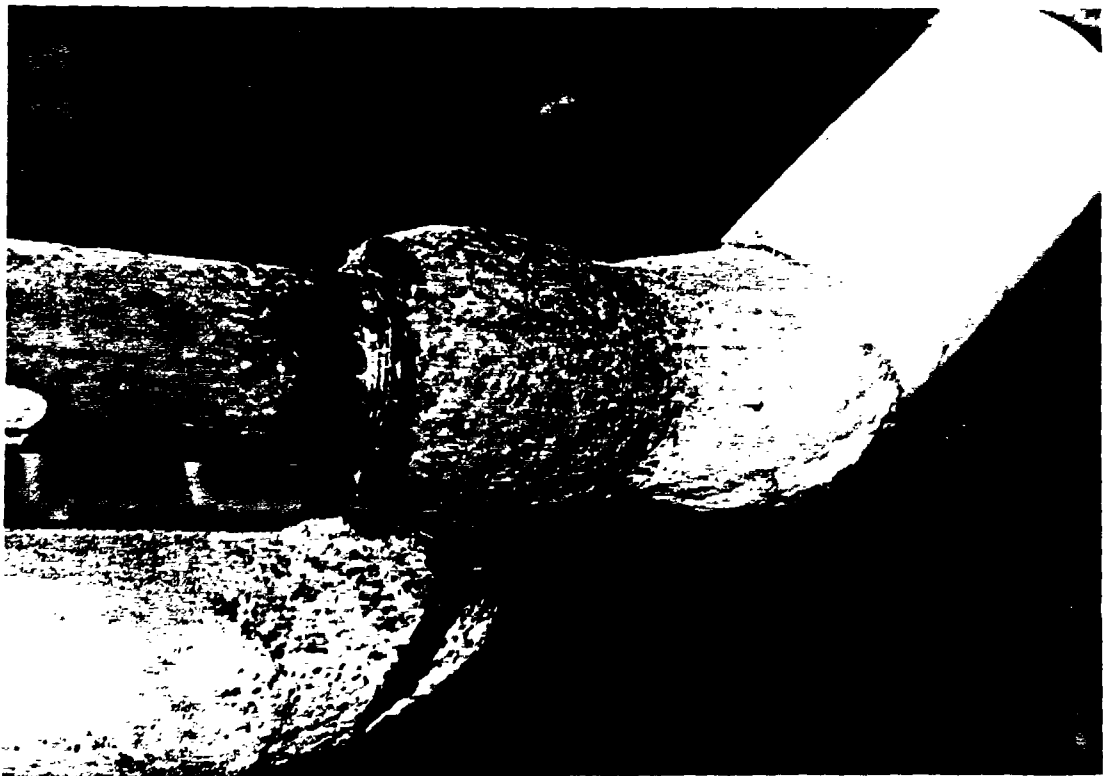


Figure 3. Inadequately wetted cementitious fitting insulation. (Note that the part of the insulation which has been wetted is dark grey in color, whereas the dry section remains white.)

Asbestos-Containing Surfacing Materials

"Surfacing Material" is a generic term designated by the Asbestos Hazard Emergency Response Act (AHERA; Asbestos Containing Materials in Schools, 40 CFR Part 763, Subpart E) to mean any wall or ceiling material that is sprayed-on or troweled-on, such as acoustical plaster or fireproofing. The recommended wetting method

for this type of RACM is to saturate the surfaces, begin the stripping operation and continue to wet the RACM as it is being removed. A misting sprayer may also be used to keep the air saturated while the removal occurs. Since surfacing materials vary in their ability to absorb a wetting agent, inspectors must consider the type of surfacing material that is being removed in order to determine the required extent of penetration by the amended water. Surfacing materials which easily absorb a wetting agent need to be fully penetrated or permeated to be considered adequately wet, whereas only the exposed surfaces of materials which do not absorb water readily need to be wetted.

The use of high pressure water to remove asbestos-containing surfacing materials, either through a steam-cleaning device or a diesel powered hydroblasting water applicator, should be avoided since such use may unduly disturb RACM and contribute to higher airborne asbestos fiber levels. However, if this removal method is used, contractors must adequately wet the ACM prior to and during the removal.

Miscellaneous Asbestos-Containing Materials

Both friable and nonfriable forms of other asbestos-containing building materials exist. Friable materials include asbestos-containing paper (commonly found beneath wooden floors), wallpaper, and joint compound. It has been estimated that 5 to 10 percent of the ceiling tiles currently installed in the U.S. contain asbestos.

Nonfriable miscellaneous ACM includes floor tiles, asbestos cement sheet (transite board), siding shingles, asphalt roofing shingles, laboratory benchtops and even chalkboards. These materials may become friable with age, and under harsh conditions. Category I nonfriable ACM must be carefully examined to determine if the material is in poor condition, that is, if the binding material is losing its integrity, exhibited by peeling, cracking or crumbling; and is also friable. When Category I nonfriable ACM has become friable it is subject to the NESHAP.

If Category I or II ACM is sanded, ground, cut or abraded it is also covered by the NESHAP. Category II nonfriable ACM which is damaged to the extent that it has or will become crumbled, pulverized or reduced to powder due to demolition/ renovation activities, is subject to the Asbestos NESHAP.

Miscellaneous materials are wetted in manners similar to those used to wet other categories of RACM. Coverings are saturated with a wetting agent before removal and the asbestos-containing portions fully penetrated with the agent prior to, during and after their

removal, while stored in the removal area, and while being placed into disposal containers. Miscellaneous materials that don't absorb water readily (e.g., asbestos-concrete products, and floor tiles) are only required to have wetted surfaces. A misting sprayer may be used to diminish airborne asbestos fiber levels.

8. INSPECTION PROCEDURES

The intent of the following guidelines is to provide GUIDANCE ONLY, to the regulated community regarding the inspection procedures recommended to Asbestos NESHAP inspectors for determining compliance with the "Adequately Wet" requirements of the Asbestos NESHAP. The purpose of the wetting provisions is to require as much wetting as is necessary to prevent airborne emissions of asbestos fibers. In order to achieve this result, RACM and ACWM must be wetted and maintained wet until collected for disposal. The determination of whether RACM or ACWM has been adequately wetted is generally based on observations made by the inspector at the time of inspection. Observations probative of whether a material is adequately wet include but are not limited to, the following:

1. Is there a water supply in place?
2. Is water or a wetting agent observed being sprayed onto the RACM or ACWM both during stripping or removal and afterwards while the material awaits proper disposal? If yes, carefully note the method of application used (e.g., misting, fogging, spraying of surface area only or drenching to penetrate the ACM throughout).
3. If water or a wetting agent is being used, what equipment is used to apply it (e.g., garden hose, plant mister)?
4. If water or a wetting agent is not being used, determine why it is not and document the reason. Possible (although not necessarily valid) reasons include:
 - prior permission obtained from the Administrator (safety hazard, potential equipment damage);
 - no water source at the facility;
 - temperature at the point of wetting below 32 degrees F;
 - portable water supply ran out and contractor continued to work; or
 - contractor prepared the area earlier, etc.

5. Examine a stripped or removed piece of ACWM or RACM which wets readily. Does it appear to be wetted throughout? If it does not, adequately wet the sample. Describe and photograph how the physical characteristics of the material change upon wetting (e.g., color, weight, texture, etc.). Take samples, as necessary, to document the presence of asbestos in the suspect material.
6. When examining materials that do not readily absorb water or a wetting agent (e.g., premolded thermal system insulation, ceiling tiles, floor tiles) inspectors should note whether all exposed surfaces of these materials have been wetted as required.
7. Is there visible dust (airborne or settled), or dry ACWM debris in the immediate vicinity of the operation? Inspectors should collect samples of such materials for analysis of their possible asbestos content.
8. Examine ACWM in bags or other containers using the procedures that follow, to determine if the material has been adequately wetted?
 1. Randomly select bags or the containers for inspection.
 2. Lift the bag and assess its overall weight. (A bag of dry ACWM can generally be lifted easily by one hand. A bag filled with well-wetted material would be substantially heavier.)
 3. If the bag or other container is transparent:
 - Visually inspect the contents of the unopened bag for evidence of moisture (e.g., water droplets, water in the bottom of the bag, a change in the color of the material due to water).
 - Without opening the bag, squeeze chunks of debris to ascertain whether moisture droplets are emitted.
 - If the material appears dry or not penetrated with liquid or a wetting agent, open the bag using the additional steps described in step 9 below, and collect a bulk sample of each type of material in the bag ascertaining

variations in size, patterns, color and textures.

9. If the waste material is contained in an opaque bag or other container, or if the material is in a transparent bag which appears to be inadequately wetted:
 - Carefully open the bag (in the containment area, if possible). If there is no containment area at the site, a glove bag may be used to enclose the container prior to opening it to minimize the risk of any fiber release.
 - Examine the contents of the bag for evidence of moisture as in 8 above, and if the material appears dry or it is not fully penetrated with water or a wetting agent, collect a bulk sample.
 - Reseal the bag immediately after evaluating and sampling its contents.

APPENDIX A

ASBESTOS NESHAP COORDINATORS (FOR DEMOLITION/RENOVATION ACTIVITIES)

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region I
JFK Federal Building
Boston, MA 02203
(617) 565-3265
CT, MA, ME, NH, RI, VT**

**Asbestos NESHAP Coordinator
Air & Waste Management Division
U.S. EPA Region II
26 Federal Plaza
New York, NY 10278
(212) 264-6770
NJ, NY PR, VI**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107
(215) 597-6550
DC, DE, MD, PA, VA, WV**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region IV
345 Courtland Street, N.E.
Atlanta, GA 30365
(404) 347-5014
AL, FL, GA, KY, MS, NC, SC, TN**

**Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6793
IL, IN, MI, MN, OH, WI**

**Asbestos NESHAP Coordinator
Air, Pesticide & Toxics Division
U.S. EPA Region VI
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7223
AR, LA, NM, OK, TX**

**Asbestos NESHAP Coordinator
Air & Toxics Management Division
U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7618
IA, KS, MO, NE**

**Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA Region VIII
999 18th Street
Suite 500
Denver, CO 80202-2405
(303) 293-1767
CO, MT, ND, SD, UT, WY**

**Asbestos NESHAP Coordinator
Air Management Division (A-3-3)
U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 556-5569
AS, AZ, CA, GU, HI, NV,
Northern Marianas, TT**

**Asbestos NESHAP Coordinator
Air & Toxics Management Division
U.S. EPA Region X
1200 Sixth Avenue
Seattle, WA 98101
(205) 442-1757
AK, ID, OR, WA**

APPENDIX B

REGIONAL ASBESTOS COORDINATORS (FOR SCHOOLS)

**Regional Asbestos Coordinator
EPA Region I
Air & Management Division
JFK Federal Building
Boston, MA 02203
(617) 565-3835
CT, MA, ME, NH, RI, VT**

**Regional Asbestos Coordinator
EPA Region II
Woodbridge Avenue
Raritan Depot, Building 5
Edison, NJ 08837
(201) 321-6671
NJ, NY, PR, VI**

**Regional Asbestos Coordinator
EPA Region III
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-3160
DC, DE, MD, PA, VA, WV**

**Regional Asbestos Coordinator
EPA Region IV
345 Courtland St. N.E.
Atlanta, GA 30365
(404) 347-5014
AL, FL, GA, KY, MS, NC, SC, TN**

**Regional Asbestos Coordinator
EPA Region V
230 South Dearborn Street
Chicago, IL 60604
(312) 886-6003
IL, IN, MI, MN, OH, WI**

**Regional Asbestos Coordinator
EPA Region VI
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 655-7244
AR, LA, NM, OK, TX**

**Regional Asbestos Coordinator
EPA Region VII
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7020
IA, KS, MO, NE**

**Regional Asbestos Coordinator
EPA Region VIII
1 Denver Place
999 18th Street
Suite 500
Denver, CO 80202-2413
(303) 293-1442
CO, MT, ND, SD, UT, WY**

**Regional Asbestos Coordinator
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 556-5406
AS, AZ, CA GU, HI, NV,
Northern Marianas, TT**

**Regional Asbestos Coordinator
EPA Region X
1200 Sixth Avenue
Seattle, WA 98101
(206) 442-4762
AK, ID, OR, WA**

Item 4 -

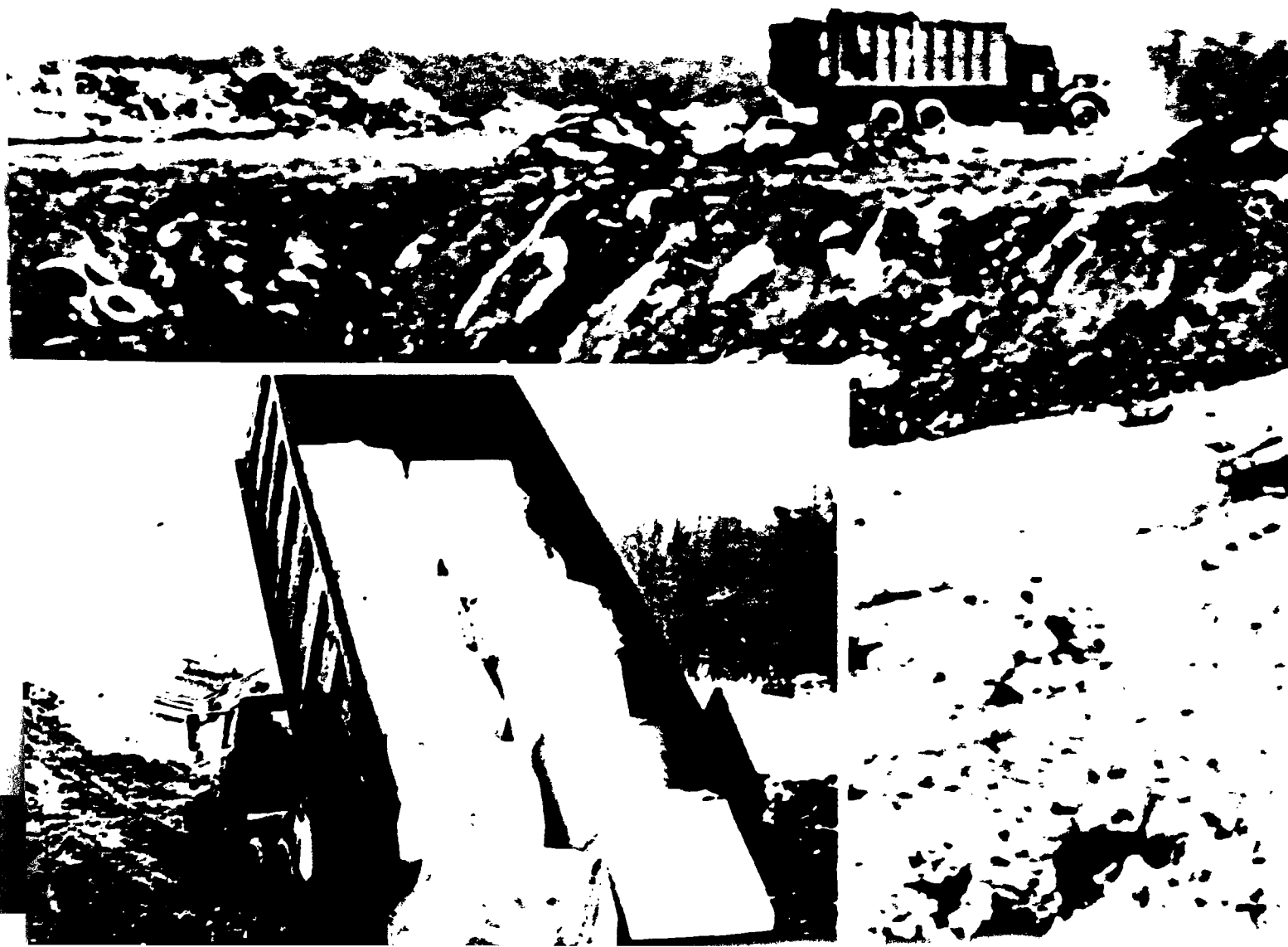
**Reporting And Recordkeeping Requirements For Waste
Disposal**

(A Field Guide)



Reporting And Recordkeeping Requirements For Waste Disposal

A Field Guide



DISCLAIMER

This manual was prepared by Entropy Environmentalist, Inc. for the Stationary Source Compliance Division of the U.S. Environmental Protection Agency. It has been completed in accordance with EPA Contract No. 68-02-4462, Work Assignment No. 90-123. This document is intended for information purposes **ONLY**, and may not in any way be interpreted to alter or replace the coverage or requirements of the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M. Any mention of product names does not constitute endorsement by the U.S. Environmental Protection Agency.



Reporting And Recordkeeping Requirements For Waste Disposal

A Field Guide

FIELD GUIDE

REPORTING AND RECORDKEEPING REQUIREMENTS FOR WASTE DISPOSAL

This is a guide to help you comply with the new reporting and recordkeeping requirements of the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP). The specific responsibilities of waste generators, transporters and waste disposal site operators are addressed, as well as detailed explanations of how to complete the new forms accurately and efficiently. This field guide is organized into four main sections as follows:

- Waste Shipment Record
- Reporting Requirements
- Recordkeeping Requirements
- Source Reporting Requirements for Disposal Site Operators

I. WASTE SHIPMENT RECORD

After (the effective date of this rule), all shipments of asbestos containing waste material must be accompanied by a Waste Shipment Record (WSR) similar to the sample shown in Figure 1. When it is signed by the generator, the transporter and the waste disposal site operator, the WSR documents the movement and ultimate disposition of asbestos waste. The WSR consists of three parts and requires three signatures, those of the generator, the transporter and the disposal site operator.

A. Waste Generator

Waste generator means any owner or operator of a source covered by this rule whose activities produce asbestos-containing waste materials. Included are asbestos mills, manufacturers, fabricators, demolitions, renovations and spraying operations [40 CFR 61.149 and 150]. Generators are responsible for filling out Items 1-9 of the WSR. The original should be turned over to the transporter along with the waste shipment, although the generator should retain a copy of the WSR signed by the transporter acknowledging receipt of the waste shipment (Item 10) for his records.

Directions for filling out the WSR form are found in Figure 1. Items 1-4 and 6 provide important reference information. In Item 5, Category I nonfriable materials (asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products) should be considered nonfriable if they have not been sanded, ground, burned, or abraded; and Category II materials such as asbestos-cement products taken out before demolition may be reported as nonfriable also.

Item 7 asks for the quantity of waste in cubic meters or cubic yards. You may report in the units that you are most comfortable using, but you are expected to make a good faith effort to report correctly. Some helpful conversion factors are provided below:

- Drums and barrels used as asbestos-waste containers are typically of 35 gallons capacity. Gallons can be converted to cubic yards by multiplying gallons by 0.00379. In our example, $35 \text{ gallons} \times 0.00379 = 0.133 \text{ cubic yards}$ for the volume of a drum or barrel.
- Plastic bags have a nominal volume of 0.1 cubic yards, but when they contain asbestos waste their volume is assumed to be about 0.075 cubic yards.
- Cubic yards can be changed to cubic meters by multiplying cubic yards by 0.765. The drum for which we calculated a volume of 0.133 cubic yards would have a volume of $0.133 \times 0.765 = 0.102 \text{ cubic meters}$.

Follow the instructions given in Figure 1 to complete Items 8 and 9. When you turn the waste over to the transporter, require the transporter to acknowledge receipt of the asbestos waste by signing the WSR at Item 10: retain a copy of the WSR signed by the transporter for your files.

B. Transporter

At the time that you take possession of the load of waste, ask the generator for a WSR. Acknowledge receipt of the asbestos waste by signing the WSR at Item 10; return a copy of it to the generator. If you turn the shipment over to a second transporter require him to

acknowledge receipt of the shipment by signing the WSR at Item 11. It is recommended that you retain a copy of the signed document for your files when you surrender the WSR to a second transporter. The transporter who delivers the waste shipment to the waste disposal site should surrender the WSR to the disposal site operator. It is recommended that you keep a copy of the WSR signed by the disposal site operator for your files as a matter of good business practice.

C. Waste Disposal Site Operator

Waste disposal site operators are not expected to open bags or other containers to verify that the material is asbestos: if a WSR accompanies the shipment, that is sufficient verification. You must complete Items 12 and 13 of the WSR according to the instructions in Figure 1 and send a copy of the WSR according to the name and address listed in Item 2 of the WSR. The disposal site operator should check to see that the numbers of containers reported in WSR Item 6 and the quantities reported in WSR Item 7 appear to be correct. Any discrepancy should be noted in Item 12.

If the WSR indicates a truckload of asbestos waste, ask the driver if he knows the truck's cargo capacity. If he cannot tell you the capacity, estimate it by multiplying the length by the width by the height of the cargo compartment (all in feet) and divide by 27 cubic feet to obtain cubic yards. If you know the capacity of a truck—say 20 cubic yards—and you judge it to be half-full, estimate the load as 10 cubic yards.

Item 12 is also used to note improperly enclosed or uncovered waste.

II. REPORTING REQUIREMENTS

The revised NESHAP now includes reporting requirements for generators and waste disposal site operators. Generators are required to submit exception reports if they do not receive a copy of the WSR signed by the disposal site owner or operator within 45 days of the date the shipment was accepted by the first transporter. Disposal site operators must file reports of discrepancies between the quantities of waste indicated on the WSR and the quantities actually received, as well as reports of improperly enclosed or uncovered waste.

A. Exception Report

If you as a generator of a shipment of asbestos waste do not receive a copy of the WSR signed by the disposal site operator within 35 days after you turned the waste over to the first transporter, you must take steps to locate the waste shipment.

First, contact the transporter and verify the fact that the waste was delivered to the waste disposal site specified in Item 3 of the WSR. If the transporter has not delivered the shipment, determine the reason for the delay, and when it will be delivered. If the transporter has delivered the waste to the specified waste disposal site, inquire if a copy of the WSR signed by the disposal site operator can be made available to you. (The transporter is not required to obtain or keep a copy signed by the disposal site operator: however, some may do so as a matter of good business practice.) Next contact the disposal site operator and determine why you have not received a copy of the WSR signed by him. Request that the disposal site operator send a signed copy of the WSR to you immediately.

If you have not received a signed WSR from the disposal site operator within 45 days after you turned the waste over to the initial transporter, you must submit a written exception

report to the responsible NESHAP program agency (see Appendix A for a list of agencies and their jurisdictions). The report should include a copy of the WSR in question as well as a cover letter that explains what you have done to locate the shipment, and the results of your search.

B. Discrepancy Report

As a waste disposal site operator, you will be checking the WSR that accompanies each asbestos waste shipment that arrives at your site to make sure that the information on the WSR accurately describes the waste shipment. If you see that there is a discrepancy between the number of containers shown on the WSR and the number that you count in the truck you should note this in Item 12 of the WSR and contact the generator to determine if there is a reasonable explanation for the discrepancy. If you are able to reconcile the apparent discrepancy, make a note of it on the WSR and forward it to the generator as you would normally do.

If you are unable to resolve the discrepancy within 15 days of accepting the waste, you must send a written discrepancy report immediately to the responsible agency in whose jurisdiction the generator of the waste is located. The discrepancy report should describe the discrepancy in question and the steps you have taken to obtain an explanation for it, such as how and when you attempted to reach the generator. A copy of the shipment's WSR must accompany the discrepancy report.

C. Report of Improperly Enclosed or Uncovered Waste

Disposal site operators will check asbestos waste shipments arriving at their sites and are expected to look for significant amounts of improperly enclosed or uncovered waste before the material is disposed of. If significant amounts of improperly enclosed or uncovered waste are discovered in a shipment (see discussion under WSR), note it in Item 12 of the WSR and send, by the following working day, a written report of the problem to the specific agency responsible for administering the NESHAP program for the jurisdiction where the job site is located (identified on the WSR). If the disposal site is located in a different jurisdiction than the job site, you should also send a copy of the WSR to the agency responsible for the disposal site. The written report should describe the improperly enclosed or uncovered waste in sufficient detail that the responsible agency can determine the urgency of the situation and what action to take. A copy of the WSR must be submitted along with the written report.

III. RECORDKEEPING REQUIREMENTS

New requirements for recordkeeping are set for waste generators and waste disposal sites. Generators must keep copies of all WSR's for at least 2 years. In addition to keeping WSR's for at least 2 years, active waste disposal sites must also keep records of the asbestos-containing waste material located within the site.

A. Waste Generator

As a waste generator, you must retain copies of all WSR's, including WSR's signed by the owner or operator of the waste disposal site where the waste was deposited for at least 2 years. The WSR's should be kept in chronological order in a secure, water-tight file. You are expected to provide copies of WSR's upon request of the responsible agency and to make the WSR file available for inspection during normal business hours.

B. Active Waste Disposal Site Operator

You, the waste disposal site operator, are required to keep copies of WSR's that you have received for at least 2 years. The WSR's should be kept in chronological order in a secure, water-tight file. You are expected, further, to provide copies of WSR's upon request of the responsible agency and to make the WSR file available for inspection during normal business hours.

Another new requirement is that you now must maintain up-to-date records that indicate the location, depth and area, and quantity of asbestos containing waste material within the disposal site on a map or diagram of the disposal area.

You have the option of either restricting the asbestos waste to specified areas within the disposal site or depositing it throughout the site. In making this decision you should consider the future use of the property after the disposal site has been closed. By restricting the area where asbestos waste is deposited you will be able to preserve more of the property for future use. However, if you choose to deposit asbestos waste throughout the site, the responsible agency would consider that the entire disposal area contains asbestos.

When you open a new trench (or area) for asbestos waste disposal, place stakes in the ground at the corners of the trench. Take precautions to see that the stakes are kept where they are originally positioned and are not broken during the time that the trench is being filled. When you have filled the trench, call in a land surveyor. The surveyor will use the stakes to determine the location of the asbestos deposit within the disposal site. Ask the surveyor to prepare a map or diagram of the disposal site that shows the location(s) and surface dimensions of the asbestos deposit.

Before beginning to fill a new trench with asbestos waste, measure the maximum depth of the trench, record it, and save it to put on the map provided by the surveyor. Use the data provided in Item 7 of the WSR's to obtain the quantity of asbestos-containing waste material. Add up the cubic yards (cubic meters) of waste indicated on the WSR's for all of the asbestos waste shipments that are deposited in the trench up until the time that it is full and is closed. Also, put the total quantity of asbestos-waste deposited at the site on the map provided by the surveyor.

The map should be kept current until the time that the waste disposal site is closed. At closure you must submit a copy of records of asbestos waste disposal locations and quantities to the agency responsible for administering the NESHAP program in your area. The surveyor's map or diagram of the disposal site with the location and surface dimensions of the asbestos deposit(s), maximum depth of the deposit(s) and asbestos waste quantities fulfills this requirement and should be submitted to the Administrator. See Figure 2 for an example of a map.

Within 60 days of closing your waste disposal site you must record on the deed to the waste disposal site the following information:

- The land has been used for the disposal of asbestos-containing waste material,
- The survey plot and record of the location and quantity of asbestos containing waste disposed of within the disposal site have been filed with (name of responsible agency), and
- The site is subject to 40 CFR 61 Subpart M.

In some states, a Notation of Deed form can be used to add this information to a deed, while in others it may be easier to prepare a new deed than it is to annotate an existing deed. You should contact the Register of Deeds at the county seat of the county in which your disposal site is located to learn the rules that cover deeds and for instructions on how to proceed.

IV. SOURCE REPORTING REQUIREMENTS FOR DISPOSAL SITE OPERATORS

Another new requirement is that, within 90 days of the effective date of this rule, you are required to report certain information about your asbestos waste disposal operations to the responsible asbestos NESHAP program agency (see Appendix A for a list of agencies). Section 61.153 of the asbestos NESHAP requires that you report the following information:

- A brief description of the waste disposal site, which would include such information as the location and size of the disposal facility.
- A description of the method or methods that will be used to comply with the asbestos NESHAP, or a description of alternative methods that will be used. Methods to be used, such as covering asbestos waste daily with 6 inches of nonasbestos cover or the use of dust suppressants should be reported. Other information that might be reported includes procedures to prevent public access to the asbestos waste disposal area, such as the use of warning signs and fencing. You must report this information using the format in Appendix A of Part 61 of Title 40 of the Code of Federal Regulations (40 CFR).

In addition to the information listed above, you as the waste disposal site operator, must also report the following information required by the source reporting requirements of Section 61.10 of Subpart, Part 61 of 40 CFR.

- Name and address of the owner or operator.
- The location of the source.
- The type of hazardous pollutants emitted by the stationary source.
- A brief description of the nature, size, design, and method of operation of the stationary source including the operating design capacity of the source. Identify each point of emission for asbestos.
- The average weight per month of asbestos being processed by the source over the last 12 months preceding the date of the report.

If there is a change in any of the information listed above, you must report the changes to the appropriate agency within 30 days after they occur.

Generator	1. Work site name and mailing address		Owner's name	Owner's telephone no.
	2. Operator's name and address			Operator's telephone no.
	3. Waste disposal site (WDS) name, mailing address, and physical site location			WDS phone no.
	4. Name, and address of responsible agency			
	5. Description of materials		6. Containers No. Type	7. Total quantity m ³ (yd ³)
	8. Special handling instructions and additional information			
	9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.			
Printed/typed name & title		Signature	Month Day Year	
Transporter	10. Transporter 1 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
	11. Transporter 2 (Acknowledgment of receipt of materials)			
	Printed/typed name & title		Signature	Month Day Year
	Address and telephone no.			
Disposal Site	12. Discrepancy indication space			
	13. Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.			
	Printed/typed name & title		Signature	Month Day Year

(Continued)

Figure 1. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is
 - Friable asbestos material
 - Nonfriable asbestos material
6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - DM - Metal drums, barrels
 - DP - Plastic drums, barrels
 - BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

NOTE: The waste generator must retain a copy of this form.

(continued)

Figure 1. Waste Shipment Record

9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

Transporter Section (Items 10 & 11)

10. & 11. Enter name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

NOTE: The WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

Figure 1. Waste Shipment Record

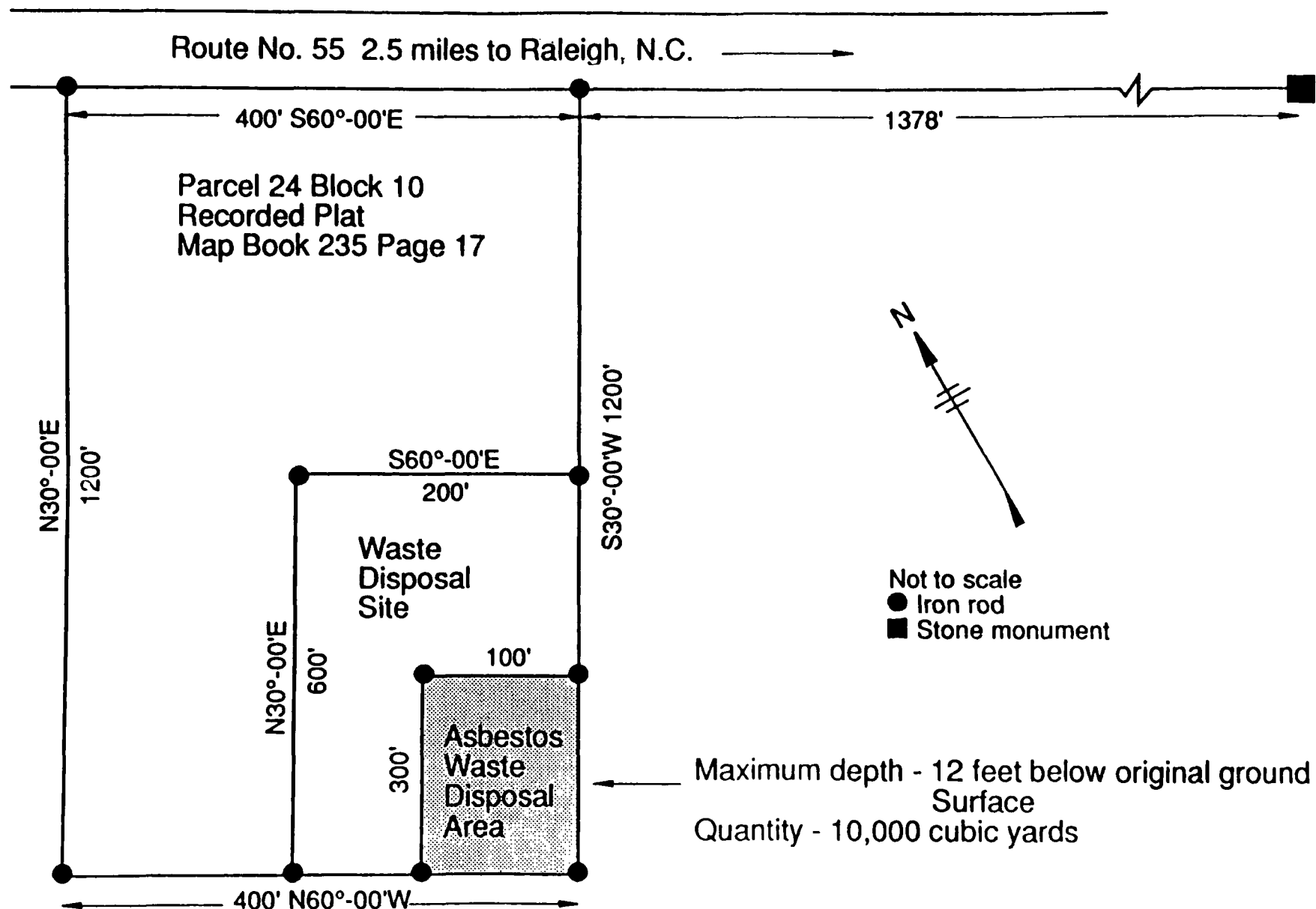


Figure 2. Example plat of waste disposal site showing asbestos waste disposal area.

Appendix A
Local, State, and EPA Regional Agencies
Responsible for Administering
The Asbestos NESHAP Program

EPA Regions

Region 1 Asbestos NESHAP Coordinator
Air Management Division
U.S. EPA
JFK Federal Building
Boston, MA 02203
(617) 565-3265

States: CT, MA, ME, NH, RI, VT

Region 2 Asbestos NESHAP Coordinator
Air & Waste Management
Division
U.S. EPA
26 Federal Plaza
New York, NY 10278
(212) 264-6770

States: NJ, NY, PR, VI

Region 3 Asbestos NESHAP Coordinator
Air, Toxics & Radiation
Management Division
U.S. EPA
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-6550

States: DC, DE, MD, PA, VA, WV

Region 4 Asbestos NESHAP Coordinator
Air, Pesticide & Toxic Division
U.S. EPA
345 Courtland Street, N.E.
Atlanta, GA 30365
(404) 347-5014

States: AL, FL, GA, KY, MS, NC,
SC, TN

Region 5 Asbestos NESHAP Coordinator
Air & Radiation Division
U.S. EPA
230 South Dearborn Street
Chicago, IL 60604
(312) 353-6793

States: IL, IN, MI, MN, OH, WI

Region 6 Asbestos NESHAP Coordinator
Air, Pesticides & Toxics Division
U.S. EPA
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733
(214) 655-7223

States: AR, LA, NM, OK, TX

Region 7 Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7018

States: IA, KS, MO, NE

Region 8 Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA
One Denver Place
999 18th Street, Suite 500
Denver, CO 80202-2405
(303) 294-7685

States: CO, MT, ND, SD, UT, WY

Region 9 Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1135

States: AZ, CA, HI, NV

Region 10 Asbestos NESHAP Coordinator
Air & Toxics Division
U.S. EPA
1200 6th Avenue
Seattle, WA 98101
(206) 442-1757

States: AK, ID, OR, WA

REGION 1

Connecticut Damien Houlihan
U.S. EPA
JFK Federal Building, Room
2313
Boston, MA 02203
(617) 565-3265

Maine Bruce Buck
Dept. of Environmental
Protection
State House, Station 17
Augusta, ME 04333
(207) 582-8740

Massachusetts **Metro Boston and North**
John MacAuley
Dept. of Environmental
Protection
5 Commonwealth Avenue
Woburn, MA 01801
(617) 935-2160

Southeast
Vacant. Inquiries are being
temporarily handled by the Metro
Boston and North office (above)

Central
Greg Levins
Dept. of Environmental
Protection
75 Grove Street
Worcester, MA 01605
(508) 792-7692

Western
Roberta Ken
Dept. of Environmental
Protection
436 Dwight Street
Springfield, MA 01103
(413) 784-1100

New Hampshire John Le Febvre
Air Resources Division
Dept. of Environmental Services
64 N. Main St., Caller Box 2033
Concord, NH 03302-2033
(603) 271-1370

Rhode Island Damien Houlihan
U.S. EPA
JFK Federal Building, Room
2313
Boston, MA 02203
(617) 565-3265

Vermont Damien Houlihan
U.S. EPA
JFK Federal Building, Room
2313
Boston, MA 02203
(617) 565-3265

REGION 2

New Jersey Robert Fitzpatrick
U.S. EPA
Air and Waste Management
Division
26 Federal Plaza
New York, NY 10278
(212) 264-6770

New York Robert Fitzpatrick
U.S. EPA
Air and Waste Management
Division
26 Federal Plaza
New York, NY 10278
(212) 264-6770

Puerto Rico Commonwealth of Puerto Rico
Environmental Quality Board
P.O. Box 11785
Santurce, PR 00910

U.S. Virgin Islands U.S. Virgin Islands Dept. of
Conservation and Cultural
Affairs
P.O. Box 578
Charlotte Amalie, St. Thomas
U.S. Virgin Islands 00801

Region 3 State Contacts**REGION 3**

Delaware **New Castle County**
Jim Walmer
Dept. of Natural Resources and
Environmental Control
715 Grantham Lane
New Castle, DE 19720
(302) 323-4542

Kent or Sussex County
Dave Burke
Delaware Dept. of Natural
Resources
89 Kings Highway
P.O. Box 1401
Dover, DE 19903
(302) 739-4791

District of Columbia John Holmes
DC Dept. of Consumer and
Regulatory Affairs
2100 Martin Luther King Avenue
S.E.
Washington, DC 20020
(202) 783-3181

Maryland John McQuade
Air Management Administration
Maryland Dept. of the
Environment
2500 Broening Highway
Baltimore, MD 21224
(301) 631-3200

Pennsylvania Dean Van Orden
Division of Hazardous Air
Pollutants
Bureau of Air Quality Control
Dept. of Environmental
Resources
P.O. Box 2357
Harrisburg, PA 17105-2357
(717) 787-9257

Allegheny County (Pittsburgh)
Fred Ebel
Bureau of Air Pollution Control
Allegheny County Health
Dept. 301 39th Street
Pittsburgh, PA 15201
(412) 578-8133

Philadelphia
Ed O'Neil
Air Management Services
Dept. of Public Health
500 South Broad Street
Philadelphia, PA 19146
(215) 875-5678

Virginia Charles King
Virginia Air Pollution Control
Board
9th Street Office Building,
Room 801
Richmond, VA 23219
(804) 786-6079

For Notifications
Virginia Dept. of Labor and
Industry
Division of Occupational Health
Enforcement
P.O. Box 12064
Richmond, VA 23241
(804) 786-8009

West Virginia Paul Rader
West Virginia Air Pollution
Control Commission
1558 Washington Street, East
Charleston, WV 25311
(304) 348-4022

REGION 4

Alabama Ludwig C. Hoffmann, III
Air Division
Alabama Dept. of Environmental
Management
1751 W.L. Dickinson Drive
Montgomery, AL 36109
(205) 271-7861

Jefferson County
Gerald Coker
Jefferson County Dept. of Health
P.O. Box 2648
Birmingham, AL 35202
Contact: Joe Wilson
(205) 930-1210

Huntsville
Charles Terrell
Natural Resources and
Environmental Management
Dept.
City of Huntsville
2033-C Airport Road
Huntsville, AL 35801
(205) 883-3645

Florida Ed Palagyi
Bureau of Air Regulation
Florida Dept. of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
(904) 488-1344

Duval County
Pat Patterson
Div. of Bio-Environmental
Services
Duval County Dept. of Health,
Welfare, and Bio-
Environmental Sciences
421 West Church Street,
Suite 412
Jacksonville, FL 32202
(904) 630 3638

Hillsborough County
Sheila Luce
Hillsborough County
Environmental Protection
Commission
1410 North 21st Street
Tampa, FL 33605
(813) 272-5530

	Palm Beach County Jim Hearn Air Pollution Control Palm Beach County Health Dept. 901 Evernia Street West Palm Beach, FL 33402 (407) 355-3070	Mississippi Jimmy Asbill Office of Pollution Control Mississippi Dept. of Environmental Quality P.O. Box 10385 Jackson, MS 39289-0385 (601) 961-5171
	Broward County Bill Hahne Broward County Environmental Quality Control Board 621 South Andrews Fort Lauderdale, FL 33301 (305) 765-4441	North Carolina Pat Curran Division of Environmental Management Asbestos Hazard Management Branch P.O. Box 27687 Raleigh, NC 27611 (919) 733-0820
	Dade County Frank Echanique or Peter Basil Dade County Dept. of Environmental Resource Management Metro Government Ctr., Suite 1310 111 Northwest First Street Miami, FL 33128 (305) 858-0601	Mecklenburg County Dan Hardin Air Quality Section Environmental Management Division Mecklenburg County Dept. of Environmental Protection 1200 Blythe Boulevard Charlotte, NC 28203 (704) 376-4603
	Pinellas County Eric Fehrmann Division of Air Quality Pinellas County Dept. of Environmental Management 16100 Fairchild Drive Building V102 Clearwater, FL 34622 (813) 530-6522	Forsyth County Robert Fulp, Director Forsyth County Environmental Affairs Dept. 537 North Spruce Street Winston-Salem, NC 27101 Contact: Michael Hastings (919) 727-8060
Georgia	Marvin Bradford Asbestos Licensing and Certification Unit Environmental Protection Division Georgia Dept. of Natural Resources 156 Trinity Avenue, Suite 315 Atlanta, GA 30303 (404) 656-4999	Western North Carolina Ronald Boone, Director Western North Carolina Regional Air Pollution Control Agency Buckingham County Courthouse P.O. Box 7215 Asheville, NC 28801-3569 Contact: David Brigman (704) 255-5655
Kentucky	Parker Moore Division for Air Quality Control Frankfort Office Park 18 Reilly Road Frankfort, KY 40601 (502) 564-2150	South Carolina Dick Sharpe South Carolina Dept. of Health and Environmental Control 2600 Bull Street Columbia, SC 29201 Contact: Jean Wheeler (803) 734-4750
	Jefferson County Jerry Schlatter Jefferson County Air Pollution Control District 850 Barrett Avenue Louisville, KY 40204 (502) 625-6000	

Tennessee

Robert Foster
Division of Air Pollution Control
Tennessee Dept. of Public Health
Customs House, 4th Floor
701 Broadway
Nashville, TN 37247-3101
Contact: Jackie Waynick
(615) 741-3931

Chattanooga-Hamilton County
J. Wayne Cropp, Director
Chattanooga-Hamilton County
Air Pollution Control Bureau
3511 Rossville Boulevard
Chattanooga, TN 37404
Contact: Jim Weyler
(615) 867-4321

Memphis-Shelby County
Helen Keith, Manager
Air Pollution Control
Memphis-Shelby County Health
Dept.
814 Jefferson Avenue
Memphis, TN 38105
Contact: Jinneal Clark
(901) 576-7653

Nashville-Davidson County
Paul Bontrager, Director
Metropolitan Health Dept.
Pollution Control Division
Nashville-Davidson County
311 Twenty-Third Avenue, North
Nashville, TN 37203
Contact: Fred Huggins
(615) 340-5653

Knox County
Terry Harris, Director
Knox County Dept. of Air
Pollution Control
400 Main Avenue
City/County Building, Room 459
Knoxville, TN 37902
Contact: Lynne Liddington
(615) 521-2488

REGION 5

Illinois
Otto Klein
Division of Air Pollution Control
Illinois Environmental Protection
Agency
P.O. Box 19276
Springfield, IL 62794-9276
(217) 785-1743

Indiana
Frank Profit
Asbestos Section
Office of Air Management
Indiana Dept. of Environmental
Management
P.O. Box 6015
Indianapolis, IN 46206-6015
Contact: Deborah Dubenetzky
(317) 232-8373

Michigan
Keshav Singh
Air Quality Division
Michigan Dept. of Natural
Resources
P.O. Box 30028
Lansing, MI 48909
(517) 335-1588

Minnesota
David Crowell or Steve Giddings
Division of Air Quality
Minnesota Pollution Control
Agency
520 Lafayette Road
St. Paul, MN 55155
(612) 296-7653/296-7513

Ohio
Tom Hadden
Division of Air Pollution Control
Ohio Environmental Protection
Agency
P.O. Box 1049
Columbus, OH 43266-0149
(614) 644-2270

Wisconsin
Joe Brehm
Bureau of Air Management
Wisconsin Dept. of Natural
Resources
P.O. Box 7921
Madison, WI 53707
(608) 267-7541

REGION 6

Arkansas **Arkansas Dept. of Pollution Control and Ecology**
8001 National Drive, P.O. Box 9583
Little Rock, AR 72219
Contact: Jeff Purtle
(501) 562-7444

Louisiana **Asbestos Unit Coordinator**
Louisiana Dept. of Environmental Quality
P.O. Box 44096
Baton Rouge, LA 70804-4096
Contact: Chris Roberie
(504) 342-9056

New Mexico **Bernalillo County**
Air Pollution Control Division
Environmental Health and Energy Dept.
P.O. Box 1293
Albuquerque, NM 87103
Contact: Steve Walker
(505) 768-2637

Outside Bernalillo County
Air Quality Bureau
NM Environmental Improvement Division
P.O. Box 968
Santa Fe, NM 87504-0968
Contact: Bill Hargraves
(505) 827-0062

Oklahoma **Air Quality Service**
Oklahoma State Dept. of Health
P.O. Box 53551
Oklahoma City, OK 73152
Contact: Tom Hudson
(405) 271-5220

Oklahoma City-County
Air Quality Section
Oklahoma City-County Health Dept.
921 N.E. 23rd Street
Oklahoma City, OK 73105
Contact: Curt Goeller
(405) 427-8651

Tulsa City-County
Air Pollution Control Program
Tulsa City-County Health Dept.
4616 East 15th Street
Tulsa, OK 74112
Contacts: Ray Bishop or Grady Baron
(918) 744-1000

Texas

Director of Compliance Division
Texas Air Control Board
6330 Highway 290 East
Austin, TX 78723
Contact: Jeanne Philquist
(512) 451-5711
(Submit notifications to Texas regional offices)

Texas Municipal Offices

Dallas
Air Pollution Control Program
Environmental Health Division
Dept. of Health and Human Services
320 E. Jefferson, LL-13
Dallas, TX 75203
Contacts: Gary Burlbaw or Roger Jayroe
(214) 948-4435

El Paso
Air Pollution Control Program
El Paso City Health Dept.
222 South Campbell
El Paso, TX 79901
Contact: Jesus J. Reynoso
(915) 543-3646

Galveston County
Environmental Control Services
Galveston County Health District
P.O. Box 939
LaMarque, TX 77568
Contact: Karen Alexander
(409) 938-7221

Houston
Bureau of Air Quality Control
Houston City Health and Human Services Dept.
7411 Park Place Blvd.
Houston, TX 77087
Acting Contact: Henry H. Branham
(713) 640-4200

Fort Worth
Environmental Health Division
Fort Worth Public Health Dept.
1800 University Drive
Fort Worth, TX 76107
Contact: Gene Rattan
(817) 870-7281
Contact: Gerald Bearden
(817) 870-7289

**Texas Air
Control Board
Regional
Offices**

Region 1

Archer, Baylor, Brown,
Callahan, Childress, Clay,
Coleman, Comanche, Cottle,
Eastland, Fisher, Foard,
Hardeman, Haskell, Jack,
Jones, Kent, Knox, Mitchell,
Montague, Nolan, Runnels,
Scurry, Shackelford, Stephens,
Stonewall, Taylor,
Throckmorton, Wichita,
Wilbarger and Young Counties
Winona Henry, Director
Commerce Plaza Office Building
1290 South Willis, Suite 205
Abilene, TX 79605
(915) 698-9674

Region 2

Armstrong, Bailey, Briscoe,
Carson, Castro, Cochran,
Collingsworth, Crosby, Dallam,
Deaf Smith, Dickens, Donley,
Floyd, Garza, Gray, Hale, Hall,
Hansford, Hartley, Hemphill,
Hockley, Hutchinson, King,
Lamb, Lipscomb, Lynn,
Lubbock, Moore, Motley,
Ochiltree, Oldham, Parmer,
Potter, Randall, Roberts,
Sherman, Swisher, Terry,
Wheeler and Yoakum Counties
Gerald Hudson, Director
Briercroft South #1
5302 South Avenue Q
Lubbock, TX 79412
(806) 744-0090

Region 3

Bastrop, Bell, Blanco, Bosque,
Brazos, Burleson, Burnet,
Caldwell, Coryell, Falls,
Fayette, Freestone, Grimes,
Hamilton, Hays, Hill,
Lampasas, Lee, Leon, Llano,
Limestone, Madison,
McClennan, Milam, Mills,
Robertson, Travis, Washington
and Williamson Counties
Eugene Fulton, Director
500 Lake Air Drive, Suite 1
Waco, TX 76710-5887
(817) 772-9240

Region 4

Cameron, Hidalgo, Jim Hogg,
Starr, Webb, Willacy and Zapata
Counties
Robert Guzman, Director
Matz Building, Room 204
513 East Jackson
Harlingen, TX 78550
(512) 425-6010

Region 5

Aransas, Bee, Brooks, Calhoun,
Dewitt, Duval, Goliad, Jackson,
Jim Wells, Kennedy, Kleberg,
Lavaca, Live Oak, McMullen,
Nueces, Refugio, San Patricio,
and Victoria Counties
Tom Palmer, Director
1231 Agnes St., Suite #103
Corpus Christi, TX 78401
(512) 882-5828

Region 6

Andrews, Borden, Coke,
Concho, Crane, Crockett,
Dawson, Ector, Gaines,
Glasscock, Howard, Irion,
Loving, Martin, McCulloch,
Menard, Midland, Pecos,
Reagan, Reeves, San Saba,
Schleicher, Sterling, Sutton,
Terrell, Tom Green, Upton,
Ward, and Winkler Counties
Charley Sims, Director
1901 East 37th Street, Suite 101
Odessa, TX 79762
(915) 367-3871

Region 7

Austin, Brazoria, Chambers,
Colorado, Fort Bend, Galveston,
Harris, Liberty, Matagorda,
Montgomery, Walker, Waller,
and Wharton Counties
Herbert W. Williams, Jr., Director
5555 West Loop, Suite 300
Bellaire, TX 77401
(713) 666-4964

Region 8

Collin, Cooke, Dallas, Denton,
Ellis, Erath, Fannin, Grayson,
Hood, Hunt, Johnson,
Kaufman, Palo Pinto, Parker,
Rockwall, Somervell, Tarrant,
and Wise Counties
Melvin Lewis, Director
6421 Camp Bowie Blvd., Suite
312
Fort Worth, TX 76116
(817) 732-5531

Region 9

Atascosa, Bandera, Bexar,
Comal, Dimmit, Edwards, Frio,
Gillespie, Gonzales, Guadalupe,
Karnes, Kendall, Kerr, Kimble,
Kinney, La Salle, Mason,
Maverick, Medina, Real,
Uvalde, Val Verde, Wilson, and
Zapata Counties
James Menke, Director
4335 Piedras West, Suite 101
San Antonio, TX 78228
(512) 734-7981

Region 6 State Contacts

Region 10
Angelina, Hardin, Houston,
Jasper, Jefferson,
Nacogdoches, Newton, Orange,
Polk, Sabine, San Augustine,
San Jacinto, Shelby, Trinity,
and Tyler Counties
Vic Fair, Director
4605-B Concord Road
Beaumont, TX 77703
(409) 838-0397

Region 11
Brewster, Culbertson, El Paso,
Hudspeth, Jeff Davis, and
Presidio Counties
Manuel Aguirre, P.E., Director
1200 Golden Key Circle, Suite
369
El Paso, TX 79925
(915) 591-8128

Region 12
Anderson, Bowie, Camp, Cass,
Cherokee, Delta, Franklin,
Gregg, Harrison, Henderson,
Hopkins, Lamar, Marion,
Morris, Panola, Rains, Red
River, Rusk, Smith, Titus,
Upshur, Van Zandt, Upshur and
Wood Counties
Richard Leard, P.E., Director
1304 South Vine Avenue
Tyler, TX 75701
(214) 595-2639

Greene County-Springfield
Ron Boyer or Bryan Adams
Air Pollution Control
Health Unit
Greene County-City of Springfield
Health Dept.
227 East Chestnut Expressway
Springfield, MO 65802
(417) 864-1663

Kansas City
Paul Stablein or Jennifer Logan
Kansas City Air Quality Program
414 East Twelfth Street, 21st
Floor
Kansas City, MO 64106
(816) 274-2501

St. Louis
Ronald Steinkamp
Division of Air Pollution Control
City Hall, Room 419
St. Louis, MO 63103
(314) 662-3334

St. Louis County
Dan Overton
St. Louis County Air Pollution
Branch
111 South Meramec Avenue
Clayton, MO 63105
(314) 854-6912

Nebraska

Nebraska Dept. of Environmental
Control
P.O. Box 94877
State House Station
Lincoln, NE 68509
(402) 471-2186

Jacqueline Fiedler
Division of Asbestos Control
Nebraska Dept. of Health
301 Centennial Mall South
P.O. Box 94877
Lincoln, NE 68509-5007
(402) 471-2541

Lincoln-Lancaster County
Gary Walsh
Air Pollution Control Section
Division of Environmental Health
Lincoln-Lancaster County Health
Dept.
2200 St. Marys Avenue
Lincoln, NE 68502
(402) 471-8039

Omaha
Chester Black
Air Quality Control Division
5600 South 10th Street
Omaha, NE 68107
(402) 444-6015

Region 7 State Contacts

REGION 7

Iowa
Kurt Eskew
Air and Toxic Division
U.S. EPA
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7618

Kansas
Gary Miller
Asbestos Control Program
Kansas Dept. of Health and
Environment
Forbes Field, Building 740
Topeka, KS 66620-0001
(913) 296-1550

Missouri
Mike Tharpe
Chief of Enforcement
Air Pollution Control Program
Missouri Dept. of Natural
Resources
P.O. Box 176
Jefferson City, MO 65102
(314) 751-4817

REGION 8

Colorado Alan Saville or Steve Fine
Compliance Monitoring and
Enforcement Section
Air Pollution Control Division
Stationary Sources Program
Colorado Dept. of Health
4210 East 11th Avenue
Denver, CO 80220
(303) 331-8509

Denver
Jack Bendixon
Denver Dept. of Health and
Hospitals
605 Bannock
Denver, CO 80204
(303) 893-6243

Montana Warren Norton
Air Quality Bureau
Dept. of Health and
Environmental Sciences
Cogswell Building
Helena, MT 59620
(406) 444-3454

North Dakota Ken Wangler
State Dept. of Health and
Consolidated Laboratories
1200 Missouri Avenue
P.O. Box 5520
Bismarck, ND 58502-5520
(701) 224-2348

South Dakota Office of Air Quality and Solid
Waste
Division of Water and Natural
Resources
Joe Foss Building
Pierre, SD 57501
(605) 773-3153

Utah Kent Bott
Bureau of Air Quality
Dept. of Health
P.O. Box 16690
Salt Lake City, UT 84116-0690
(801) 538-6108

Salt Lake City County
Donald K. Horsley
Salt Lake City County Health
Dept.
610 South 200 East
Salt Lake City, UT 84111
(801) 534-4516

Wyoming F. Gerald Blackwell
Air Quality Division
Dept. of Environmental Quality
122 West 25th Street
Cheyenne, WY 82002
(307) 777-7391

REGION 9

Arizona Wayne Hunt
Office of Air Quality
Arizona Dept. of Environmental
Quality
2005 North Central Avenue
Room 603C
Phoenix, AZ 85004
(602) 257-2276

Pima County
John Bartlett
Pima County AQCD
150 West Congress Street
Tucson, AZ 85701

Maricopa County
Stephen Olson
Maricopa County APCD
P.O. Box 2111
Phoenix, AZ 85001
(602) 258-6381 x506

California California Air Resources Board
1101 "R" Street
Sacramento, CA 95812
Contact: Francis Mateo
(916) 322-3976

For Information:
Charles Kersey
CARB Compliance Division
P.O. Box 2815
Sacramento, CA 95812
(916) 322-8272

**Alameda, Contra Costa, Marin,
Napa, San Francisco, San
Mateo, Santa Clara, South
Sonoma and South Solano
Counties**
Public Information
Bay Area AQMD
939 Ellis Street
San Francisco, CA 94109
(415) 771-6000 x210

Fresno County
Bob Bashian
Fresno County APCD
P.O. Box 11867
Fresno, CA 93775
(209) 445-3239

**Humboldt, Del Norte, Trinity
Counties**
Leonard Herr
North Coast Unified AQMD
5630 South Broadway
Eureka, CA 95501
(707) 443-3093

Kern County

Jon Adams
Kern County APCD
2700 "M" Street, Suite 275
Bakersfield, CA 93301
(805) 861-3682

Kings County

Mark Poindexter or Chuck Hanna
Kings County APCD
330 Campus Drive
Hanford, CA 93230
(209) 584-1411

Lake County

John Thompson
Lake County AQMD
883 Lakeport Blvd.
Lakeport, CA 95453
(707) 263-7000

**Los Angeles, Orange, Riverside,
and San Bernardino (except
Desert**

Portion) Counties
Paul Aunchman
South Coast AQMD
9150 Flair Drive
El Monte, CA 91731
(818) 572-6195

Madera County

Bill Sturk
Madera County APCD
135 West Yosemite Avenue
Madera, CA 93637
(209) 675-7823/24/25

Mendocino County

Phillip Towle
Mendocino County APCD
Courthouse
Ukiah, CA 95482
(707) 463-4354/5458

Merced County

John Lathrop
Roland Brooks, Asst. APCO
Environmental Health
Merced County APCD
385 East Thirteenth Street
Merced, CA 95340
(209) 385-7391

Modoc County

Clinton B. Greenbank
Modoc County APCD
202 West Fourth Street
Alturas, CA 96101
(916) 233-3939 x401

**Mono, Inyo, and Alpine
Counties**

Larry Cameron or Duane Ono
Great Basin Unified APCD
157 Short Street
Bishop, CA 93514
(619) 872-8211

Monterey County

Ed Kendig
Monterey Bay Unified APCD
1164 Monroe Street, Suite 10
Salinas, CA 93906-3596
(408) 443-1135

Northern Sonoma County

George Erdman
Northern Sonoma County APCD
109 North Street
Healdsburg, CA 95448
(707) 433-5911

Sacramento County

Asbestos Coordinator
Sacramento Metropolitan AQMD
8475 Jackson Road, Suite 215
Sacramento, CA 95826
(916) 386-6650

**San Bernardino County
(Desert Portion)**

Richard Wales or Steve Jenkins
San Bernardino County APCD
15428 Civic Drive, Suite 200
Victorville, CA 92392
(619) 243-8200

San Diego County

Jimmy Cooksey
San Diego County APCD
9150 Chesapeake Drive
San Diego, CA 92123
(619) 694-3340

San Joaquin County

San Joaquin County APCD
P.O. Box 2009
Stockton, CA 95201
ATTN: Lakhmir Grewal
APCD Director
(209) 468-3400
Contact: Jim Czarnecki
(209) 468-3476

San Luis Obispo County

San Luis Obispo County APCD
2156 Sierra Way, Suite B
San Luis Obispo, CA 93401
(805) 549-5912

Santa Barbara County

George F. Tise, II
Santa Barbara County APCD
240 East Highway 246, Suite 207
Buellton, CA 93427
(805) 686-5012

Stanislaus County

Mark Macedo
 Stanislaus County APCD
 1716 Morgan Road
 Modesto, CA 95351
 (209) 525-4152

Tulare County

Joel Martins
 Environmental Health Division
 Tulare County APCD
 Health Building
 County Civic Center
 Visalia, CA 93291
 (209) 733-6441

Ventura County

Jay Nicholas
 Ventura County APCD
 800 South Victoria Avenue
 Ventura, CA 93009
 (805) 654-5031

Yolo and Northern Solano Counties

Bill Schuldt
 Yolo-Solano County APCD
 P.O. Box 1006
 Woodland, CA 95695
 (916) 666-8146/47

Hawaii

Ken Hall
 Clean Air Branch
 Hawaii Dept. of Health
 P.O. Box 3378
 2611 Kilihau Street
 Honolulu, HI 96801
 (808) 543-8200

Nevada

Washoe County

Brian Wright
 Environmental Health/Air
 Quality
 Washoe County District Health
 Dept.
 P.O. Box 11130
 1001 East Ninth Street
 Reno, NV 89520
 (702) 328-2620

Clark County

Harold Glasser
 Air Pollution Control Division
 Clark County Health District
 P.O. Box 4426
 Las Vegas, NV 89127
 (702) 383-1276

REGION 10**Alaska****For Notification**

Tom Wilson
 Alaska Operations Office
 U.S. EPA
 Room 537, Federal Building
 222 W. 7th Ave. #19
 Anchorage, AK 99513-7588
 (907) 271-5083

For Disposal

Alaska Dept. of Environmental
 Conservation
 3601 C Street, Suite 1350
 Anchorage, AK 99503
 (907) 563-6529

Idaho

Tim Trumbull
 U.S. EPA
 422 W. Washington Street
 Boise, ID 83702
 (208) 334-1626

Oregon

Sara Armitage
 State Asbestos Program
 Oregon Dept. of Environmental
 Quality
 811 S.W. 6th Avenue
 Portland, OR 97204
 (503) 229-5186

Lane County

Tom Freeman
 Lane Regional Air Pollution
 Control Authority (LRAPA)
 225 North 5th Street, Suite 501
 Springfield, OR 97477
 (503) 726-2514

Washington

Ken Fukutomi
Washington Dept. of Ecology
4350 150th Avenue NE
Redmond, WA 98502
(206) 867-7107

Tri-Counties
J. Phillip Cooke
Tri-Counties Air Pollution Control
Authority
650 George Washington Way
Richland, WA 99352
(509) 946-4489

Northwest
Terry Nyman
Northwest Air Pollution Authority
302 Pine Street, Suite 207
Mount Vernon, WA 98273
(206) 428-1617

Olympic
Chuck Peace
Olympic Air Pollution Control
Authority
120 East State Avenue
Olympia, WA 98103
(206) 586-0593 x100

Puget Sound
Joe Eng
Puget Sound Air Pollution
Control Agency
200 West Mercer Street, Room
205
Seattle, WA 98119-3958
(206) 296-7335

Southwest

Richard Serdoz
Southwest Air Pollution Control
Authority
1308 N.E. 134th St., Suite D
Vancouver, WA 98685-2747
(206) 574-3058
(800) 633-0709

Spokane

Ron Edgar
Spokane County Air Pollution
Control Authority
W. 1101 College Avenue,
Room 230
Spokane, WA 99201
(509) 456-4727 x105

Yakima County

Yakima County Clean Air
Authority
County Courthouse
Yakima, WA 98901
(509) 575-4116

State Index

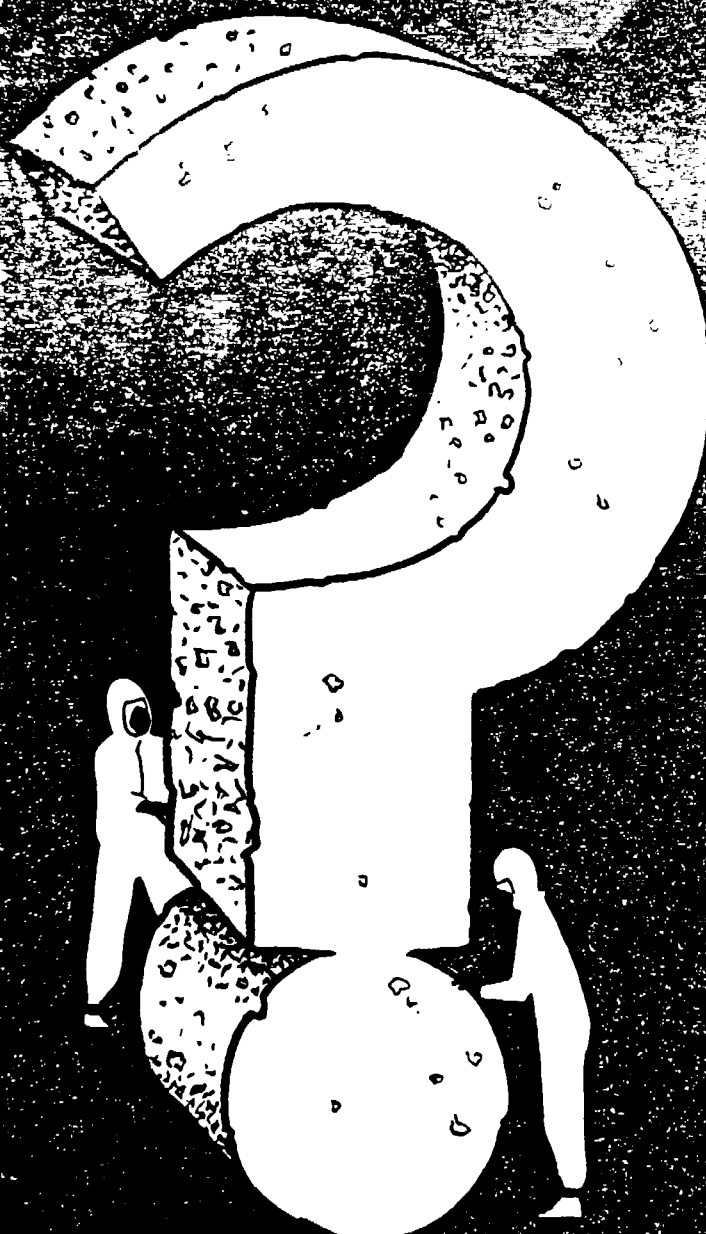
	Page		Page
Alabama	14	New Jersey	13
Alaska	22	New Mexico	17
Arizona	20	New York	13
Arkansas	17	North Carolina	15
California	20	North Dakota	20
Colorado	20	Ohio	16
Connecticut	13	Oklahoma	17
Delaware	13	Oregon	22
District of Columbia	13	Pennsylvania	14
Florida	14	Puerto Rico	13
Georgia	15	Rhode Island	13
Hawaii	22	South Carolina	15
Idaho	22	South Dakota	20
Illinois	16	Tennessee	16
Indiana	16	Texas	17
Iowa	19	Utah	20
Kansas	19	Vermont	13
Kentucky	15	U.S. Virgin Islands	13
Louisiana	17	Virginia	14
Maine	13	Washington	23
Maryland	14	West Virginia	14
Massachusetts	13	Wisconsin	16
Michigan	16	Wyoming	20
Minnesota	16		
Mississippi	15		
Missouri	19		
Montana	20		
Nebraska	19		
Nevada	22		
New Hampshire	13		

Item 5 -

Common Questions On The Asbestos NESHAP

EPA

Common Questions On The Asbestos NESHAP



Common Questions On The Asbestos NESHAP

**United States
Environmental Protection Agency
Office Of Air Quality Planning and Standards
Stationary Source Compliance Division**

December 1990

DISCLAIMER

This manual was prepared by Entropy Environmentalist, Inc. for the Stationary Source Compliance Division of the U.S. Environmental Protection Agency. It has been completed in accordance with EPA Contract No. 68-02-4462, Work Assignment No. 90-123. This document is intended for information purposes **ONLY**, and may not in any way be interpreted to alter or replace the coverage or requirements of the asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M. Any mention of product names does not constitute endorsement by the U.S. Environmental Protection Agency.

Common Questions on the Asbestos NESHAP

Contents	Introduction	1
	General Information	2
	NESHAP Jurisdiction	3
	Notifications	6
	Removal	9
	Ordered Demolitions	10
	Friable and Non-Friable Asbestos	11
	Transport and Disposal	12
	Monitoring and Sampling	14
	Inspections	15
	Training	17
	Violations and Penalties	17
	NARS	19
	Additional Information	21
	Glossary of Terms	22
	AHERA and NESHAP Coordinators	24

Common Questions on the Asbestos NESHAP

Introduction

The Clean Air Act (CAA) requires the U. S. Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA established National Emissions Standards for Hazardous Air Pollutants (NESHAP) to protect the public. Asbestos was one of the first hazardous air pollutants regulated under Section 112. On March 31, 1971, EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, EPA first promulgated the Asbestos NESHAP in 40 CFR Part 61.

In 1990, a revised NESHAP regulation was promulgated by EPA. Information contained in this pamphlet is consistent with the amended regulation.

This pamphlet answers the most commonly asked questions about the Asbestos NESHAP for demolitions and renovations. Many of the questions included in this pamphlet have been raised by demolition and renovation contractors in recent years. Most questions relate to how a demolition or renovation contractor or building owner can best comply with the regulation. The responses assume that the questioner has a basic understanding of the Asbestos NESHAP and demolition and renovation practices. A brief glossary of terms is also included at the back of the pamphlet.

The Asbestos NESHAP regulations protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of asbestos-containing material. Accordingly, the Asbestos NESHAP specifies work practices to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). In addition, the regulations require the owner of the building and/or the contractor to notify applicable State and local agencies and/or EPA Regional Offices before all demolitions, or before renovations of buildings that contain a certain threshold amount of asbestos.

For more information about the Asbestos NESHAP or for answers to questions not covered in this pamphlet, contact the delegated State or local agency or the appropriate EPA Regional Office listed on page 24.

**General
Information**

What is the purpose of the Asbestos NESHAP regulation?

The purpose is to protect the public health by minimizing the release of asbestos when facilities which contain asbestos-containing materials (ACMs) are demolished or renovated.

How much regulated asbestos-containing material (RACM) is disposed of annually from demolition/renovation operations?

Approximately 5.7 million cubic feet of RACM is disposed of annually. In accordance with the regulation, most RACM is taken to landfills, where it is covered by soil or other debris in order to keep it from releasing asbestos fibers.

What is the difference between demolishing a facility and renovating it?

"Demolition" and "renovation" are defined in the regulation. You "demolish" a facility when you remove or wreck any load-supporting structural member of that facility or perform any related operations; you also "demolish" a facility when you burn it. You "renovate" a facility when you alter any part of that facility in any other manner. Renovation includes stripping or removing asbestos from the facility.

What percentage of asbestos related activities involve demolitions?

Demolitions comprise approximately 10% of all reported asbestos-related activities.

Is there a numeric emission limit for the release of asbestos fibers during renovations or demolitions in the asbestos NESHAP regulation?

No, the Asbestos NESHAP relating to demolitions or renovations is a work practice standard. This means that it does not place specific numerical emission limitations for asbestos fibers on asbestos demolitions and removals. Instead, it requires specific actions be taken to control emissions. However, the Asbestos NESHAP does specify zero visible emissions to the outside air from activity relating to the transport and disposal of asbestos waste.

Who is responsible for enforcing the Asbestos NESHAP standards?

Under Section 112 of the Clean Air Act, Congress gave EPA the responsibility for enforcing regulations relating to asbestos renovations and demolitions. The CAA allows EPA to delegate this authority to State and local agencies. Even after EPA delegates responsibility to a State or local agency, EPA retains the authority to oversee agency performance and to enforce NESHAP regulations as appropriate.

How many States have primary responsibility for implementing the Asbestos NESHAP regulations?

As of October 1990, approximately 45 states.

NESHAP Jurisdiction

What is a "facility"?

As defined in the regulation, a "facility" is 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; or any active or inactive waste disposal site. Any building, structure or installation that contains a loft used as a dwelling is not considered residential. Any structure, installation, or building that was previously subject to the Asbestos NESHAP is not excluded, regardless of its current use or function.

If I renovate several two-family units, are the units defined as a "facility?"

Residential buildings which have four or fewer dwelling units are not considered "facilities" unless they are part of a larger installation (for example, an army base, company housing, apartment or housing complex, part of a group of houses subject to condemnation for a highway right-of-way, an apartment which is an integral part of a commercial facility, etc.).

Are mobile homes or mobile structures regulated by the Asbestos NESHAP?

Mobile homes used as single-family dwellings are not subject to Asbestos NESHAP. Mobile structures used for non-residential purposes are subject to NESHAP.

Are Federal facilities regulated by the Asbestos NESHAP?

Yes.

Are single-family private residences regulated by the Asbestos NESHAP?

No.

How much asbestos must be present before the Asbestos NESHAP work practice standards apply to renovation projects?

Asbestos NESHAP regulations must be followed for all renovations of facilities with at least 80 linear meters (260 linear feet) of regulated asbestos-containing materials (RACM) on pipes, or 15 square meters (160 square feet) of regulated asbestos-containing materials on other facility components, or at least one cubic meter (35 cubic feet) off facility components where the amount of RACM previously removed from pipes and other facility components could not be measured before stripping. These amounts are known as the "threshold" amounts.

How much asbestos must be present before the Asbestos NESHAP work practice standards apply to demolition projects?

Asbestos NESHAP regulations must be followed for demolitions of facilities with at least 80 linear meters (260 linear feet) of regulated asbestos-containing materials (RACM) on pipes, 15 square meters (160 square feet) of regulated asbestos-containing materials on other facility components, or at least one cubic meter (35 cubic feet) off facility components where the amount of RACM previously removed from pipes and other facility components could not be measured before stripping.

However, all demolitions must notify the appropriate regulatory agency, even if no asbestos is present at the site, and all demolitions and renovations are "subject" to the Asbestos NESHAP insofar as owners and operators must determine if and how much asbestos is present at the site.

Are homes that are demolished or renovated to build non-residential structures regulated by the Asbestos NESHAP?

Yes. For example, homes which are demolished as part of an urban renewal project, a highway construction project, or a project to develop a shopping mall are regulated by the Asbestos NESHAP.

A single home which is converted into a non-residential structure is also regulated by the Asbestos NESHAP. For example, if someone buys a house and converts it into a store, the renovation is subject to the Asbestos NESHAP.

If a renovation site is abandoned, is the site still regulated by the Asbestos NESHAP?

Yes. Even after a renovation site is abandoned, it is still regulated by the Asbestos NESHAP.

What is encapsulation, and is it regulated by the Asbestos NESHAP?

Encapsulation is the application of a material with a sealant to stop it from releasing fibers. Normally, encapsulation is not regulated by the Asbestos NESHAP unless it involves removing or stripping asbestos. However, if encapsulation is done using methods that damage asbestos and release fibers it would be covered. For example, high pressure spraying to apply encapsulant could damage asbestos. Also, if friable RACM is encapsulated, the RACM is still covered by the Asbestos NESHAP if renovation or demolition occurs.

Are offshore oil rigs regulated in terms of asbestos removal and demolition?

Yes. Federal jurisdiction extends to the continental shelf (100 miles). When EPA delegates authority to State or local agencies, the State and local agencies are usually considered to have authority only in territorial waters (12 miles). The Department of the Interior is still evaluating whether States may extend their jurisdiction beyond territorial waters. EPA currently enforces the NESHAP between territorial waters and the continental shelf.

Notifications

What is a notification?

A notification is a written notice of intent to renovate or demolish. Notifications must contain certain specified information, including but not limited to, the scheduled starting and completion date of the work, the location of the site, the names of operators or asbestos removal contractors, methods of removal and the amount of asbestos, and whether the operation is a demolition or renovation.

See Section §61.145(b) of the Asbestos NESHAP regulation.

Whom do I notify?

You should notify the delegated State/Local Pollution Control Agency in your area and/or the EPA Regional Office of the demolition or renovation operations subject to NESHAP. Some EPA Regions require that both the EPA Regional Office and the local delegated agency be notified, while some require notice only to the delegated State or local agency. If the program is not delegated, notify the EPA Regional Office.

How do I notify?

Mail or hand-deliver the notification to the appropriate agency.

Are telefaxed or telephone notifications acceptable?

No. Telefaxed notifications are not accepted. Telephone notifications are only acceptable in emergency situations at the discretion of the EPA Regional Office or delegated agency and must be followed with a written copy by the following working day.

Who is responsible for submitting a notification – the owner of the building which is being demolished or renovated, or the contractor?

The NESHAP regulation states that either the owner of the building or operator of the demolition or renovation operation can submit the notification. Usually, the two parties decide together who will notify. If neither provide adequate notice, EPA can hold either or both parties liable.

When a condominium complex is being renovated, who as owner, is responsible for submitting a notification?

While owners and operators share responsibility for proper notification, the condominium or co-op board is responsible as the owner. The board should ensure that they are told when work takes place on individual units, so that they can comply with notification (and other EPA) requirements, especially if multiple operators are involved.

Is there a form or format for notifications?

Yes, there is a suggested form for notifications. You can obtain a form, and instructions on how to fill it out, from your delegated State or local agency or from your EPA Regional Office.

Do demolitions of facilities in which no asbestos is present require notification?

Yes. All demolitions that meet the definition of facility must notify.

When I notify regarding a renovation, what date do I consider the start date?

For a renovation, the start date is the day that the removal of asbestos-containing material, or any other asbestos-handling activities, including precleaning, construction of containment, or other activities that could disturb the asbestos, will begin.

When I notify regarding a demolition, do I give the start date of the demolition or of the asbestos removal? Which date do I use to determine whether I've met the 10-day waiting period?

For a demolition, the start date is the date that the removal or related activity begins. The date the demolition starts also must be reported. The waiting period should be calculated based on the start date of the removal or the demolition, if no removal is required. The waiting period is necessary to give inspectors time to visit the site before activity begins.

Does the 10-day notification requirement refer to "calendar" days or "working" days?

The Asbestos NESHAP regulation specifies "working days." Holidays that fall between Monday and Friday count as "working days."

What is a "nonscheduled renovation operation"?

A "nonscheduled renovation operation" is a renovation operation that is caused by the routine failure of equipment which is expected to occur based on past operating experience, but for which an exact date cannot be predicted.

Do I have to notify for non-scheduled operations? When?

Yes, if you can predict based on past experience that renovations will be necessary during the calendar year and the amount of asbestos is likely to exceed the jurisdictional amount, notification is required. This notification must be submitted at least 10 working days before the end of the calendar year preceding the year for which notice is being given.

Note: Single renovation projects which exceed the threshold amount are not covered by this type of notice. A separate notification is required for these projects.

Must I notify the agency again if I know that a specific renovation project involving more than the threshold amount (including the work covered by the calendar year notice for non-scheduled operations) is about to occur at a specific time?

Yes.

What constitutes an emergency renovation?

An emergency renovation is a renovation that was not planned, but results from a sudden, unexpected event that either immediately produces unsafe conditions, or that, if not quickly remedied, could be reasonably foreseen to result in an unsafe or detrimental effect on health or is necessary to protect equipment and avoid unreasonable financial burden. The term includes renovations necessitated by non-routine equipment failures. For example, the explosion of a boiler in a chemical plant might require emergency renovations, since such an explosion would disrupt

normal operations. However, renovations involving routine repairs are not emergencies.

Under what conditions must I notify for emergency renovations? When must I notify?

First, inspect the facility and determine the amount of RACM that may have to be removed or disturbed to repair the facility. (If you don't have the time to have samples analyzed, you should assume that all insulation is RACM.) Then, if the amount of RACM is in excess of the threshold amount, you should mail or deliver a notification as soon as possible, but certainly no later than the following workday. A notification which is postmarked more than one working day after the emergency will be considered in violation of the notification requirements. EPA recommends that you send the notice by overnight express mail, and that you phone in a notification as well to the delegated agency and/or EPA Regional Office.

When does a notification need to be revised?

A notification must be revised if information contained in the original notice has changed. For example, you must revise the notification if you change the start date of an operation. If the change relates to the amount of RACM involved, you need only revise the notification if the amount changes by more than 20 percent.

When do I submit a revised notification?

You should telephone EPA as soon as possible after you realize the revision is necessary, and should then mail or hand deliver a written notice. If you delay the start date of a project, EPA must receive the revised notification no later than the original start date. If you plan to begin work before the date specified in the original notice, EPA must receive the revised notice at least 10 working days before the revised start date.

Removal

Does the Asbestos NESHAP require a building owner or operator to remove damaged or deteriorating asbestos-containing material?

No. Not unless a renovation of the facility is planned which would disturb the ACM and it exceeds the threshold amount.

What does "adequately wet" mean?

To "adequately wet" ACM means to sufficiently mix or penetrate the material with liquid to prevent the release of particulates. If visible emissions are observed coming from ACM, then the material has not been adequately wetted. However, the absence of visible emissions is not evidence of being adequately wet.

If a contractor puts water in the bottom of a bag, then strips the friable asbestos material dry and lets it fall into the water, is this a violation of the Asbestos NESHAP standards?

Yes. The regulation states that friable asbestos-containing material must be "adequately wet" during stripping operations. The material must remain wet until disposal.

Section 61.145(c)(6)(III) states that the operator must "transport the materials to the ground via dust tight chutes or containers if it has been removed or stripped more than 50 feet above ground level." Can a room sealed with plastic and a negative air system be considered a dust tight chute?

No, the area in which removal is being conducted (the containment area) cannot be considered a dust tight chute in order to comply with §61.145(c)(6)(iii).

**Ordered
Demolitions**

If a facility is being demolished under an order of a State or local government because the facility is structurally unsound, and therefore unsafe, do all the normal regulations covering demolitions apply?

No. The regulations which do apply are specified in §61.145 (a)(3) of the regulation.

If a facility is being demolished under an order of a State or local government, must all the debris be treated as asbestos-contaminated waste?

If, for safety reasons, the RACM in the facility is not removed prior to demolition, the RACM must be kept adequately wet during the wrecking operations. After wrecking, all the contaminated debris must be kept adequately wet until disposal.

All contaminated debris which cannot be segregated and cleaned should be disposed of as asbestos waste.

Friable and Non-Friable Asbestos

What is friable asbestos-containing material?

Friable ACM is any material containing more than one percent asbestos (as determined by Polarized Light Microscopy) that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

What is non-friable ACM?

Non-friable ACM is any material containing more than one percent asbestos (as determined by Polarized Light Microscopy) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Under the Asbestos NESHAP, non-friable ACM is divided into two categories. Category I non-friable ACM are asbestos-containing resilient floor coverings (commonly known as vinyl asbestos tile (VAT)), asphalt roofing products, packings and gaskets. These materials rarely become friable. All other non-friable ACM are considered category II non-friable ACM.

Must I remove category I non-friable material prior to demolition or renovation?

Under normal circumstances, category I non-friable materials need not be removed prior to demolition or renovation, because generally these materials do not release significant amounts of asbestos fibers, even when damaged. This is not, however, a hard and fast rule. If category I materials have become friable or are in poor condition, they must be removed. Also, if you sand, grind, abrade, drill, cut or chip any non-friable materials, including category I materials, you must treat the material as friable, if more than the jurisdictional amount is involved.

Must I remove category II non-friable materials prior to demolition or renovation?

These materials should be evaluated on a case-by-case basis. If category II non-friable materials are likely to become crushed, pulverized or reduced to powder during demolition or renovation, they should be removed before demolition or renovation begin. For example, A/C (asbestos cement) siding on a building that is

going to be demolished with a wrecking ball should be removed, because it is likely that the siding will be pulverized by the wrecking ball.

Does non-friable waste, if broken, damaged, etc., have to be wetted and contained?

Non-friable ACM that has been damaged during a demolition or renovation operation such that some portions of the material are crumbled, pulverized or reduced to powder is covered by the Asbestos NESHAP if the facility contains more than the threshold amount of RACM. However, category II non-friable ACM that has a high probability of being damaged by the demolition or renovation forces expected to act on the materials such that it will be crumbled, pulverized, or reduced to powder must be removed prior to the demolition or renovation operation. It is the owner's or operator's responsibility to make these determinations.

**Transport
and Disposal**

How should I handle bulk waste from a facility that contained RACM and that was not found until after demolition began?

The demolition debris must be treated as asbestos-containing waste. Adequately wet the demolition debris until collected for disposal and during loading, transport it in covered vehicles and emit no visible emissions to the outside air as required by §61.150. The waste must be deposited at an acceptable waste disposal site.

Can I transport bulk asbestos waste without placing it in containers as long as I keep the waste pile wet?

No. After wetting, seal all asbestos-containing waste material in leak-tight containers while wet and label with the appropriate signs and labels. If the waste will not fit into containers, it must be placed in leak-tight wrapping.

However, for facilities that are demolished without removing the RACM and for ordered demolitions, the material must be adequately wet after the demolition has occurred and again when loading the material for transport to a disposal site. RACM covered by this paragraph may be transported in bulk without being placed in leak-tight containers or wrapping.

How should I label asbestos-containing waste that is being taken away from the facility?

You should label the containers or wrapped materials with the name of the waste generator and the location at which the waste was generated. An OSHA warning label must also be used.

Does EPA license landfills for asbestos waste?

The EPA does not license asbestos landfills under the Clean Air Act.. However, it has established asbestos disposal requirements for active and inactive disposal sites under the NESHAP, and general requirements for solid waste disposal under the Resource Conservation and Recovery Act (RCRA). In addition, State and/or local agencies usually require asbestos landfills to be approved or licensed.

Where can I obtain a list of licensed landfills?

State and local agencies which require handling or licensing procedures can supply a list of "approved" or licensed asbestos disposal sites upon request. Solid waste control agencies are listed in local telephone directories under State, county or city headings.

What should the owner or operator of a waste disposal site do if it is determined that there is a discrepancy between the amount of waste that left the facility and the amount of waste that was delivered to the site?

The waste site owner or operator must contact the demolition/renovation owner or operator, and attempt to reconcile the discrepancy. If they cannot do so within 15 days after the waste was received, the waste site owner or operator must notify both the delegated agency responsible for the facility from which the waste was removed, and the delegated agency responsible for the area in which the waste was disposed.

Can water be considered "six-inch compacted non-asbestos cover"? In other words, could asbestos covered components be dropped in the ocean?

**Monitoring
and
Sampling**

Does the NESHAP regulation require air monitoring during renovation or removal?

No.

Does the Asbestos NESHAP regulation require me to inspect my property for asbestos?

No, not unless demolition or renovation is planned. The only Federal regulation which requires general inspections are the AHERA regulations, which mandate that schools must be inspected for asbestos. The NESHAP regulation requires that you inspect for asbestos before demolition or renovation.

What is the acceptable exposure/ambient air standard for asbestos?

EPA does not specify an acceptable exposure/ambient air standard.

What is a bulk sample?

A bulk sample is a solid quantity of insulation, floor tile, building material, etc., that is suspected of containing asbestos fibers that will be analyzed for the presence and quantity of asbestos.

Will EPA test my building for asbestos for me?

No. Owners and operators are responsible for getting their buildings tested.

How can I find someone to do the testing?

The National Institute of Standards and Technology (NIST) publishes a yearly listing of accredited laboratories enrolled in the National Voluntary Laboratory Accreditation Program (NVLAP). Then, on a quarterly basis NIST publishes updates to the master list detailing labs newly accredited, labs which have had their accreditation suspended, etc. Contact NIST NVLAP for a current listing of accredited labs. The NIST NVLAP number is listed at the end of this pamphlet, along with other contact numbers.

Does EPA accredit laboratories that test for asbestos?

No. EPA, under CFR Part 763, requires local education agencies to use laboratories accredited by the National Institute of Standards and Technology (NIST) in its National Voluntary Laboratory Accreditation Program (NVLAP). It is recommended for NESHAP related projects that NIST accredited laboratories be used.

How do laboratories analyze bulk samples?

Laboratories analyze bulk samples a number of ways. Most laboratories use Polarized Light Microscopy (PLM). Some laboratories use Transmission Electron Microscopy (TEM). However, there is currently no published method for bulk analysis using TEM.

How much does it cost to have a bulk sample analyzed?

The cost varies with the method. The cost of PLM analysis ranges from \$20.00 to \$100.00. The average cost is \$30.00. TEM analysis is more expensive.

inspections

Does an inspector have the right to enter any facility and the containment area?

Yes. All inspectors have the right under the Clean Air Act to inspect any facility and the containment area. Inspectors are trained and equipped to do this safely.

If I can see ACM dust inside the containment area or inside a glovebag, is this a violation of the Asbestos NESHAP?

The observation of ACM dust will be used as evidence of a violation of the "adequately wet" requirement. This is consistent with the definition of adequately wet that requires enough wetting "to prevent the release of particulates."

Is visible asbestos-containing debris on the ground outside a removal job considered a "visible emission," and a violation of the NESHAP?

Yes. Dry friable asbestos insulation on the ground violates the "adequately wet" requirement, and can be considered evidence of a visible emission.

Is it appropriate for an inspector to open any bags outside the designated contaminated area?

Yes. The inspector may open any bags outside the designated contaminated area to inspect them. The inspector may use a glovebag or other control techniques. The inspector will then properly reseal the bag, or request that the operator do so.

Must an inspector witness improper removal of more than 160 square feet or 260 linear feet of asbestos-containing material to prove a violation of the NESHAP regulation?

No. First, the inspector must gather information about the quantity of asbestos to prove that the project is subject to the NESHAP standards. Second, the inspector must prove that there has been improper removal. The two tasks are distinct from each other.

Are inspectors required to have medical examinations to ensure that they are medically fit to wear respirators?

Yes. Several Federal provisions under OSHA, EHSD, and NIOSH require people to be examined by a doctor and pronounced physically fit before they are permitted to wear respirators.

Must inspectors have personnel monitoring conducted on them during inspections to comply with OSHA requirements for workers?

No. The inspectors do not have to comply with the work practice safety standards required by OSHA for personnel monitoring.

Do inspectors need to follow facility training requirements including fit testing?

No.

Training

Do contractors and employees need to be accredited?

As of November 20, 1991, the Asbestos NESHAP requires a person trained in the provisions of this rule and the means of complying with them to be on-site when asbestos-containing material is stripped, removed, or disturbed. Under AHERA, all contractors and employees involved in the removal and disposal of asbestos-containing material from schools must be accredited. Additionally, many States require that all workers be accredited before they remove asbestos from any facility.

How can I qualify as an asbestos contractor/worker/consultant under AHERA?

You must attend and pass an EPA accredited training course. A list of training courses approved by EPA is published quarterly in the Federal Register, and is available through the TSCA hotline. The TSCA number is printed at the end of this pamphlet, along with other contact numbers. Contact your State or local agency for more information.

Do supervisors need to be trained?

Beginning on November 20, 1991, the Asbestos NESHAP requires at least one trained supervisor to be present at any site at which RACM is stripped, removed, or otherwise disturbed at any facility which is being demolished or renovated and is regulated by NESHAP. Evidence of the training must be posted and made available for inspection at the demolition or renovation site. Training includes, at a minimum: applicability, notification, material identification, control procedures, waste disposal, reporting and record keeping, asbestos hazards and worker protection. Completion of an AHERA accredited course constitutes adequate training. Every 2 years the trained individual is required to receive refresher training. Information about both the training and refresher courses is available through EPA or delegated State or local agencies.

Violations and Penalties

What will happen if I violate the Asbestos NESHAP?

Sanctions vary. In some cases, Notices of Deficiency (NOD) -- written warnings -- or Notices of Violation (NOV's) are issued to owners or operators who violate notification requirements. Or, depending upon the offense, EPA recommends fines up to \$25,000 per day per violation.

Violators of the work practice or disposal standards may be subject to either written warnings, administrative orders or civil penalties up to \$25,000 per day per violation, depending upon the seriousness of the violation. EPA may also bring criminal charges against violators. Some owners and operators who have knowingly violated the Asbestos NESHAP have been sentenced to prison terms.

For more information on penalties and enforcement, see the EPA Public Information Document entitled "Asbestos NESHAP Enforcement."

What is the maximum penalty which can be assessed for NESHAP violations?

\$25,000 per day, per violation, with no absolute maximum. However, some NESHAP violators may also be liable under CERCLA, and if so, the maximum penalty may be much higher.

How are penalties calculated?

Penalties are computed on a case-by-case basis. The amount of asbestos involved, the number of previous violations, the duration of the offense, the economic benefit that accrued to the owner or operator as a result of the violation, and similar considerations are taken into account.

What is "contractor listing?"

Contractors who have shown a pattern of violation, or who have been convicted of a criminal violation, may be placed on a list of violators who are prohibited from contracting for any jobs involving Federal money (grants, contracts, sub-grants, etc.).

Can a corporation that has changed its name, but is owned by an individual who has been listed be subject to contractor listing?

Yes.

NARS

What is NARS?

NARS stands for "National Asbestos Registry System." NARS is a computerized database established by EPA in April, 1989. NARS stores data on the compliance history of firms doing demolition or renovation work subject to the Asbestos NESHAP.

What is the purpose of NARS?

NARS is used by EPA Regional Offices as well as State and local agencies to "target" inspections of contractors with poor compliance histories, and to monitor activity subject to the NESHAP regulations.

Can I get NARS information?

Yes. NARS information is available through EPA Regional Offices under the provisions of the Freedom of Information Act.

Are there any penalties for being listed in NARS as a violator?

No. NARS is only an information system. Contractors who have violations listed in NARS may, however, be inspected more frequently than contractors who have no violations.

Why does EPA recommend inspection targeting?

Delegated agencies receive over 60,000 notifications of planned renovation or demolition projects each year. Because all projects cannot be inspected, EPA recommends targeting inspections so that agencies can make better use of their inspection resources.

Can firms avoid future inspections based on past good performance?

Past performance is an important criterion for targeting inspections; however, other criteria are also used. As a result of EPA guidance to State and local air pollution agencies, many asbestos removal contractors will be inspected at least once per year.

How many contractors and owners are currently listed in NARS?

As of October 1990, there were approximately 7,000 contractors and owners in NARS.

How does information get into NARS?

Information on the number of notifications, inspections, and violations for each contractor or owner is submitted by delegated State and local air pollution agencies and is reported through the EPA Regional NARS Coordinators to EPA Headquarters where the report is compiled.

**Additional
Information**

You can obtain more information about the Asbestos NESHAP by contacting your EPA Regional Office's NESHAP coordinator. You can obtain more information about AHERA by contacting your Regional Asbestos Coordinator (RAC). The addresses and phone numbers of both the RAC and NESHAP coordinators are listed at the end of this pamphlet.

You may also call the EPA Toxic Substances Control Act (TSCA) Hotline to ask general questions about asbestos, or to request asbestos guidance documents. The Hotline number is (202) 554-1404. The EPA Public Information Center can send you information on EPA regulations. You can reach the Center at (202) 382-2080 or (202) 475-7751.

The EPA has an Asbestos Ombudsman to provide information on the handling and abatement of asbestos in schools, the workplace and the home. Also, the EPA Asbestos Ombudsman can help citizens with asbestos-in-school complaints. The Ombudsman can be reached toll-free at (800) 368-5888, direct at (703) 557-1938 or 557-1939.

To obtain a current listing of accredited labs contact NIST NVLAP at (301)975-4016.

Glossary of Terms

AHERA	The Asbestos Hazard Emergency Response Act, passed by Congress in 1986
CAA	Clean Air Act
CERCLA	The Comprehensive Environmental Response Compensation and Liability Act. Also known as the "Superfund."
EPA	The United States Environmental Protection Agency
EHSD	Environmental Health and Safety Division, U.S. EPA
Friable Asbestos Material	Any material containing more than one percent asbestos, as determined using the method specified in Appendix A, subpart F 40 CFR part 763, section 1, Polarized Light Microscopy, 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 polarized light microscopy (PLM), verify the asbestos by point counting using PLM.
Glovebag	A sealed compartment with attached inner gloves used for the handling of asbestos-containing materials.
NARS	National Asbestos Registry System
NESHAP	The National Emission Standard for Hazardous Air Pollutants found in Title 40 CFR part 61 promulgated under Section 112 of the Clean Air Act.
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety & Health Administration
Particulate Asbestos Material	Finely divided particles of asbestos or material containing asbestos.
RACM	Regulated Asbestos-Containing Material. RACM means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable

ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by the Asbestos NESHAP.

RCRA Resource Conservation and Recovery Act

TSCA Toxic Substances Control Act

Visible Emissions Any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material, or from any asbestos milling, manufacturing, or fabricating operation.

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 1 CT, MA, ME NH, RI, VT	Asbestos NESHAP Coordinator Air Management Division US EPA JFK Building Boston, MA 02203 (617) 565-3265	Regional Asbestos Coordinator US EPA JFK Federal Building Boston, MA 02203 (617) 565-3835
Region 2 NJ, NY PR, VI	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA 26 Federal Plaza New York, NY 10278 (212) 264-6770	Regional Asbestos Coordinator US EPA Woodbridge Avenue Edison, NJ 08837 (201) 321-6671
Region 3 DC, DE, MD PA, VA, WV	Asbestos NESHAP Coordinator Air and Toxics Division US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-8683	Regional Asbestos Coordinator US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-3160
Region 4 AL, FL, GA, KY, MS, NC, SC, TN	Asbestos NESHAP Coordinator Air, Pesticide & Toxics Div. US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014	Regional Asbestos Coordinator US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014
Region 5 IL, IN, MI MN, OH, WI	Asbestos NESHAP Coordinator Air & Radiation Division US EPA 230 South Dearborn Street Chicago, IL 60604 (312) 353-6793	Regional Asbestos Coordinator US EPA 230 South Dearborn St. Chicago, IL 60604 (312) 353-6003

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 6 AR, LA, NM OK, TX	Asbestos NESHAP Coordinator Air, Pesticides & Toxics Div. US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7233	Regional Asbestos Coordinator US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7244
Region 7 IA, KS MO, NE	Asbestos NESHAP Coordinator Air & Toxics Division US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7618	Regional Asbestos Coordinator US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7020
Region 8 CO, MT, ND SD, UT, WY	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 294-7685	Regional Asbestos Coordinator US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 293-1442
Region 9 AS, CA, HI, NV, AZ, GU, TT	Asbestos NESHAP Coordinator Air Management Division US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1135	Regional Asbestos Coordinator US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1128
Region 10 AK, ID OR, WA	Asbestos NESHAP Coordinator Air & Toxics Management Div. US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-1757	Regional Asbestos Coordinator US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-4762

Item 6 -

The Asbestos Informer

United States
Environmental Protection
Agency

EPA 340/1-90-020
December 1990

Air And Radiation (EN-341)



The Asbestos Informer



Printed on Recycled Paper

EPA 340/1-90-020

The Asbestos Informer

**U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Stationary Source Compliance Division**

December, 1990

**What is
asbestos?**

Asbestos is a mineral. It is mined in much the same way that other minerals, such as iron, lead, and copper, are. Asbestos is composed of silicon, oxygen, hydrogen, and various metal cations (positively charged metal ions).

There are many varieties of asbestos: the three most common are chrysotile, amosite, and crocidolite. Chrysotile fibers are pliable and cylindrical, and often arranged in bundles. Amosite and crocidolite fibers are like tiny needles.

The first commercial asbestos mine – a chrysotile mine – opened in Quebec, Canada, in the 1870's. Crocidolite asbestos was first mined in South Africa during the 1980's. Amosite asbestos also comes from Africa and was first mined in 1916.

Unlike most minerals, which turn into dust particles when crushed, asbestos breaks up into fine fibers that are too small to be seen by the human eye. Often individual fibers are mixed with a material that binds them together, producing asbestos containing material (ACM).

**Why has
asbestos been
so widely
used?**

Asbestos appealed to manufacturers and builders for a variety of reasons. It is strong yet flexible, and it will not burn. It conducts electricity poorly, but insulates effectively. It also resists corrosion. Asbestos may have been so widely used because few other available substances combine the same qualities.

**How many
products
contain
asbestos?**

One study estimated that 3,000 different types of commercial products contained asbestos. The amount of asbestos in each product varied from as little as one percent to as much as 100 percent. Many older plastics, paper products, brake linings, floor tiles and textile products contain asbestos, as do many heavy industrial products such as sealants, cement pipe, cement sheets, and insulation.

The final Asbestos Ban and Phaseout Rule prohibits the manufacture, processing and importation of most asbestos products.

**How long has
asbestos been
in use?**

Asbestos was first used in the United States in the early 1900's, to insulate steam engines. But until the early 1940's, asbestos was not used extensively. However, after World War II, and for the next thirty years, people who constructed and renovated schools and other public buildings used asbestos and asbestos-containing materials (ACM) extensively. They used ACM primarily to fireproof, insulate, soundproof, and decorate. The Environmental Protection Agency (EPA) estimates that there are asbestos containing materials in most of the nation's approximately 107,000 primary and secondary schools and 733,000 public and commercial buildings.

**How are people
exposed to
asbestos?**

When asbestos fibers are in the air, people may inhale them. Because asbestos fibers are small and light, they can stay in the air for a long time.

People whose work brings them into contact with asbestos – workers who renovate buildings with asbestos in them, for example – may inhale fibers that are in the air: this is called **occupational exposure**. Workers' families may inhale asbestos fibers released by clothes that have been in contact with ACM: this is called **paraoccupational exposure**. People who live or work near asbestos- related operations may inhale asbestos fibers that have been released into the air by the operations: this is called **neighborhood exposure**.

The amount of asbestos a worker is exposed to will vary according to

- The concentration of fibers in the air
- Duration of exposure
- The worker's breathing rate (workers doing manual labor breathe faster)
- Weather conditions
- The protective devices the worker wears

It is estimated that between 1940 and 1980, 27 million Americans had significant occupational exposure to asbestos.

People may also ingest asbestos if they eat in areas where there are asbestos fibers in the air.

**When is ACM
most likely to
release
asbestos
fibers?**

Damaged ACM is more likely to release fibers than non-damaged ACM. In a 1984 survey, EPA found that approximately 66 percent of those buildings that contained asbestos contained damaged ACM.

If ACM, when dry, can be crumbled by hand pressure – a condition known as "friable" – it is more likely to release fibers than if it is "non-friable." Fluffy, spray-applied asbestos fireproofing material is generally considered "friable." Some materials which are considered "non-friable," such as vinyl-asbestos floor tile, can also release fibers when sanded, sawed or otherwise aggressively disturbed. Materials such as asbestos cement pipe can release asbestos fibers if broken or crushed when buildings are demolished, renovated or repaired.

ACM which is in a heavy traffic area, and which is therefore often disturbed, is more likely to release fibers than ACM in a relatively undisturbed area.

**How can
asbestos be
identified?**

While it is often possible to "suspect" that a material or product is/or contains asbestos by visual determination, actual determinations can only be made by instrumental analysis. Until a product is tested, it is best to assume that the product contains asbestos, unless the label, or the manufacturer verifies that it does not.

The EPA requires that the asbestos content of suspect materials be determined by collecting bulk samples and analyzing them by polarized light microscopy (PLM). The PLM technique determines both the percent and type of asbestos in the bulk material. EPA Regional Offices can provide information about laboratories that test for asbestos.

Does asbestos exposure cause health problems?

Some people exposed to asbestos develop asbestos-related health problems; some do not. Once inhaled, asbestos fibers can easily penetrate body tissues. They may be deposited and retained in the airways and lung tissue. Because asbestos fibers remain in the body, each exposure increases the likelihood of developing an asbestos-related disease. Asbestos related diseases may not appear until years after exposure. Today we are seeing results of exposure among asbestos workers during World War II. A medical examination which includes a medical history, breathing capacity test and chest x-ray may detect problems early.

Scientists have not been able to develop a "safe" or threshold level for exposure to airborne asbestos. Ingesting asbestos may be harmful, but the consequences of this type of exposure have not been clearly documented. Nor have the effects of skin exposure to asbestos been documented. People who touch asbestos may get a rash similar to the rash caused by fiberglass.

**What illnesses
are associated
with asbestos
exposure?**

Asbestosis

Asbestosis is a serious, chronic, non-cancerous respiratory disease. Inhaled asbestos fibers aggravate lung tissues, which causes them to scar. Symptoms of asbestosis include shortness of breath and a dry crackling sound in the lungs while inhaling. In its advanced stages, the disease may cause cardiac failure. There is no effective treatment for asbestosis; the disease is usually disabling or fatal. The risk of asbestosis is minimal for those who do not work with asbestos; the disease is rarely caused by neighborhood or family exposure.

Those who renovate or demolish buildings that contain asbestos may be at significant risk, depending on the nature of the exposure and precautions taken.

Lung Cancer

Lung cancer causes the largest number of deaths related to asbestos exposure. The incidence of lung cancer in people who are directly involved in the mining, milling, manufacturing and use of asbestos and its products is much higher than in the general population. The most common symptoms of lung cancer are coughing and a change in breathing. Other symptoms include shortness of breath, persistent chest pains, hoarseness, and anemia.

People who have been exposed to asbestos and are also exposed to some other carcinogen – such as cigarette smoke – have

a significantly greater risk of developing lung cancer than people who have only been exposed to asbestos. One study found that asbestos workers who smoke are about 90 times more likely to develop lung cancer than people who neither smoke nor have been exposed to asbestos.

Mesothelioma

Mesothelioma is a rare form of cancer which most often occurs in the thin membrane lining of the lungs, chest, abdomen, and (rarely) heart. About 200 cases are diagnosed each year in the United States. Virtually all cases of mesothelioma are linked with asbestos exposure. Approximately 2 percent of all miners and textile workers who work with asbestos, and 10 percent of all workers who were involved in the manufacture of asbestos-containing gas masks, contract mesothelioma.

People who work in asbestos mines, asbestos mills and factories, and shipyards that use asbestos, as well as people who manufacture and install asbestos insulation, have an increased risk of mesothelioma. So do people who live with asbestos workers, near asbestos mining areas, near asbestos product factories or near shipyards where use of asbestos has produced large quantities of airborne asbestos fibers.

The younger people are when they inhale asbestos, the more likely they are to develop mesothelioma. This is why enormous efforts are being made to prevent school children from being exposed.

Other Cancers

Evidence suggests that cancers in the esophagus, larynx, oral cavity, stomach, colon and kidney may be caused by ingesting asbestos. For more information on asbestos-related cancers, contact your local chapter of the American Cancer Society.

Who regulates asbestos?

The U.S. Environmental Protection Agency and the Occupational Safety and Health Administration (OSHA) are responsible for regulating environmental exposure and protecting workers from asbestos exposure. OSHA is responsible for the health and safety of workers who may be exposed to asbestos in the workplace, or in connection with their jobs. EPA is responsible for developing and enforcing regulations necessary to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. The EPA's Worker Protection Rule (40 CFR Part 763, Subpart G) extends the OSHA standards to state and local employees who perform asbestos work and who are not covered by the OSHA Asbestos Standards, or

What is EPA's position about asbestos in buildings and what to do about it?

by a state OSHA plan. The Rule parallels OSHA requirements and covers medical examinations, air monitoring and reporting, protective equipment, work practices, and recordkeeping.

In addition, many State and local agencies have more stringent standards than those required by the Federal government. People who plan to renovate or remove asbestos from a building of a certain size, or who plan to demolish any building, are required to notify the appropriate federal, state and local agencies, and to follow all federal, state, and local requirements for removal and disposal of regulated asbestos-containing material (RACM).

EPA's advice on asbestos is neither to rip it all out in a panic nor to ignore the problem under a false presumption that asbestos is "risk free." Rather, EPA recommends a practical approach that protects public health by emphasizing that asbestos material in buildings should be located, that it should be appropriately managed, and that those workers who may disturb it should be properly trained and protected. That has been, and continues to be, EPA's position. The following summarizes the five major facts that the Agency has presented in congressional testimony:

FACT ONE:

Although asbestos is hazardous, human risk of asbestos disease depends upon exposure.

FACT TWO:

Prevailing asbestos levels in buildings – the levels school children and you and I face as

building occupants – seem to be very low, based upon available data. Accordingly, the health risk we face as building occupants also appears to be very low.

FACT THREE:

Removal is often not a school district's or other 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.

FACT FOUR:

EPA only requires asbestos removal in order to prevent significant public exposure to asbestos, such as during building renovation or demolition.

FACT FIVE:

EPA does recommend in-place management whenever asbestos is discovered. Instead of removal, a conscientious in-place management program will usually control fiber releases, particularly when the materials are not significantly damaged and are not likely to be disturbed.

What are EPA's regulations governing asbestos?

TSCA

In 1979, under the Toxic Substances Control Act (TSCA), EPA began an asbestos technical assistance program for building owners, environmental groups, contractors and industry. In May 1982, EPA issued the first regulation intended to control asbestos in schools under the authority of TSCA; this regulation was known as the Asbestos-in-Schools Rule. Starting in 1985, loans and grants have been given each year to aid

Local Education Agencies (LEAs) in conducting asbestos abatement projects under the Asbestos School Hazard Abatement Act (ASHAA).

AHERA

In 1986, the Asbestos Hazard Emergency Response Act (AHERA; Asbestos Containing Materials in Schools, 40 CFR Part 763, Subpart E) was signed into law as Title II of TSCA. AHERA is more inclusive than the May 1982 Asbestos-in-Schools Rule. AHERA requires LEAs to inspect their schools for asbestos containing building materials (ACBM) and prepare management plans which recommend the best way to reduce the asbestos hazard. Options include repairing damaged ACM, spraying it with sealants, enclosing it, removing it, or keeping it in good condition so that it does not release fibers. The plans must be developed by accredited management planners and approved by the State. LEAs must notify parent, teacher and employer organizations of the plans, and then the plans must be implemented.

AHERA also requires accreditation of abatement designers, contractor supervisors and workers, building inspectors, and school management plan writers. Those responsible for enforcing AHERA have concentrated on educating LEAs, in an effort to ensure that they comply with the regulations. Contractors that improperly remove asbestos from schools can be liable under both AHERA and NESHAP. For more information on AHERA, request the pamphlet entitled "The ABC's of Asbestos in Schools" from the EPA Public Information Center.

ASBESTOS BAN & PHASEOUT RULE

In 1989 EPA published the Asbestos: Manufacture, Importation, Processing, and Distribution in Commerce Prohibitions; Final Rule (40 CFR Part 763, Subpart I). The rule will eventually ban about 94 percent of the asbestos used in the U.S. (based on 1985 estimates). For example, asbestos containing drum brake linings and roof coatings will be banned. The rule will be implemented in three stages between 1990 and 1997.

NESHAP

The Clean Air Act (CAA) of 1970 requires EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the CAA, EPA established National Emission Standards for Hazardous Air Pollutants (NESHAP).

Asbestos was one of the first hazardous air pollutants regulated under Section 112. On March 31, 1971, EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, EPA promulgated the Asbestos NESHAP in 40 CFR Part 61, Subpart M. The Asbestos NESHAP has been amended several times, most recently in November 1990. For a copy of the Asbestos NESHAP contact the Asbestos NESHAP Coordinators listed in the Appendix.

What are the basic requirements of the Asbestos NESHAP?

The Asbestos NESHAP is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. Accordingly, it specifies work practices to be followed during renovations

of buildings which contain a certain threshold amount of friable asbestos, and during demolitions of all structures, installations, and facilities (except apartment buildings that have no more than four dwelling units). Most often, the Asbestos NESHAP requires action to be taken by the person who owns, leases, operates, controls, or supervises the facility being demolished or renovated (the "owner"), and by the person who owns, leases, operators, controls or supervises the demolition or renovation (the "operator").

The regulations require owners and operators subject to the Asbestos NESHAP to notify delegated State and local agencies and/or their EPA Regional Offices before demolition or renovation activity begins. The regulations restrict the use of spray asbestos, and prohibit the use of wet applied and molded insulation (i.e., pipe lagging). The Asbestos NESHAP also regulates asbestos waste handling and disposal.

Why was the Asbestos NESHAP recently amended?

The Asbestos NESHAP was amended for several reasons. EPA wanted to clarify existing regulatory policies, and to add regulations which explicitly address monitoring and recordkeeping at facilities which mill, manufacture, and fabricate asbestos. Also, because of the high risk associated with the transfer and disposal of ACM, EPA also wanted to strengthen the

requirements which govern asbestos waste disposal by requiring tracking and recordkeeping. Furthermore, EPA determined that the Asbestos NESHAP needed to take into account the availability of improved emission controls. EPA also wanted to make the NESHAP consistent with other EPA statutes that regulate asbestos.

**What sources
are now
covered by the
asbestos
NESHAP?**

The following activities and facilities are currently regulated by the Asbestos NESHAP:

- The milling of asbestos.
- Roadways containing ACM.
- The commercial manufacture of products that contain commercial asbestos.
- The demolition of all facilities.
- The renovation of facilities that contain friable ACM.
- The spraying of ACM.
- The processing (fabricating) of any manufactured products that contain asbestos.
- The use of insulating materials that contain commercial asbestos.

**What were the
major
changes to the
Asbestos
NESHAP?**

- The disposal of asbestos-containing waste generated during milling, manufacturing, demolition, renovation, spraying, and fabricating operation
- The closure and maintenance of inactive waste disposal sites.
- The operation of and reporting on facilities that convert asbestos containing waste material into nonasbestos material.
- The design and operation of air cleaning devices.
- The reporting of information pertaining to process control equipment, filter devices, asbestos generating processes, etc.
- Active waste disposal sites.

Milling, Manufacturing, and Fabricating Sources

Businesses which are involved in asbestos milling, manufacturing, and fabricating now must monitor for visible emissions for at least 15 seconds at least once a day (during daylight hours), and inspect air cleaning devices at least once a week. The facilities must maintain records of the results, and submit each quarter a copy of the visible emissions monitoring records if visible emissions occurred during the quarter.

Facilities that install fabric filters (to control asbestos emissions) after the effective date

of the revision must provide for easy inspection of the bags.

Demolition and Renovation

All facilities which are "demolished" are subject to the Asbestos NESHAP. The definition of demolition was expanded to include the intentional burning of a facility, in addition to the "wrecking or taking out . . . any load-supporting structural member of a facility."

Owners and operators of all facilities which are to be demolished, and of facilities that contain a certain amount of asbestos which are to be renovated, must now provide more detailed information in notifications, including the name of the asbestos waste transporter and the name of the waste disposal site where the ACM will be deposited. Owners and operators must give a 10-day notice for planned renovations and demolitions. They must renotify EPA in advance of the actual start date if the demolition or renovation will begin on a date other than the one specified in the original notification. Telephone re-notifications are permitted, but must be followed by written notice.

Starting one year after promulgation of the regulation, a person trained in the provisions of the Asbestos NESHAP, and in the methods of complying with them, must supervise operations in which ACM is stripped, removed or otherwise handled. This supervisor is responsible for all on-site activity.

Before wetting is suspended, the EPA administrator must approve. When wetting of asbestos during its removal is suspended due to freezing temperatures, owners or operators must measure the air temperature in the work area three times during the workday, and must keep those records for at least two years.

The revisions also clarify EPA's position regarding the handling and treatment of non-friable asbestos material. The owner and operator must inspect the site for the presence of non-friable ACM, and include in the notification an estimate of how much non-friable ACM is present. Also, the owner and operator must describe the procedures to be followed if unexpected ACM is found in the course of demolition or renovation, and if non-friable asbestos becomes friable in the course of renovation or demolition.

Waste Transport and Disposal

Vehicles used to transport ACM must be marked according to new guidelines during loading and unloading. Labels indicating the name of the waste generator and the location where the waste was generated must be placed on containers of RACM.

When ACM waste is transported off-site, a waste shipment record (WSR) must be given to the waste site operator or owner at the time that the waste is delivered to the waste disposal site. The owner or operator must

send a signed copy of the WSR back to the waste generator within 30 days, and attempt to reconcile any discrepancy between the quantity of waste given on the WSR and the actual amount of waste received. If, within 15 days of receiving the waste, the waste site owner or operator cannot reconcile the discrepancy, he or she must report that problem to the same agency that was notified about the demolition or renovation.

New disposal sites must apply for approval to construct, and must notify EPA of the startup date. Existing disposal sites must supply EPA with certain information concerning their operations, such as the name and address of the owner or operator, the location of the site, the average weight per month of the hazardous materials being processed, and a description of the existing emission control equipment.

If a copy of the WSR signed by the waste site owner or operator is not received by the waste generator within 35 days of the date that the waste was accepted by the initial transporter, the waste generator must contact the transporter and/or disposal site owner or operator to determine the status of the waste shipment. If a signed copy of the WSR is not received within 45 days of the date that the waste was accepted by the initial transporter, the waste generator must submit a written report to the same agency that was notified about the demolition or renovation.

Owners of disposal sites must record on the deed to the disposal site that the property has been used for ACM disposal. They must also keep records that show the location, depth, area and volume of the asbestos waste; they must indicate on the deed that these records are available.

Owners of inactive disposal sites must obtain written approval before they excavate or otherwise disturb ACM waste that has been deposited on the site.

**Where can I
get more
information?**

There are ten EPA Regional Offices around the country. You can obtain more information about the Asbestos NESHAP by contacting your EPA Regional Office's NESHAP coordinator or the appropriate State or local agency. You can obtain more information about AHERA by contacting your EPA Regional Asbestos Coordinator (RAC). The addresses and phone numbers of both the RAC and NESHAP coordinators for EPA are listed at the end of this pamphlet.

You may also call the EPA Toxic Substances Control Act (TSCA) Hotline to ask general questions about asbestos, or to request asbestos guidance documents. The Hotline number is (202) 554-1404. The EPA Public Information Center can send you information on EPA regulations. You can reach the center at (202) 382-2080 or (202) 475-7751. The Office of the Federal Register (202-382-5475) can send you copies of any regulations published in The Federal Register, including the Asbestos NESHAP.

Finally, the EPA has an Asbestos Ombudsman to provide information on the handling and abatement of asbestos in schools, the workplace and the home. Also, the EPA Asbestos Ombudsman can help citizens with asbestos-in-school complaints. The Ombudsman can be reached toll-free at (800) 368-5888, direct at (703) 557-1938 or 557-1939.

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 1 CT, MA, ME NH, RI, VT	Asbestos NESHAP Coordinator Air Management Division US EPA JFK Building Boston, MA 02203 (617) 565-3265	Regional Asbestos Coordinator US EPA JFK Federal Building Boston, MA 02203 (617) 565-3835
Region 2 NJ, NY PR, VI	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA 26 Federal Plaza New York, NY 10278 (212) 264-6770	Regional Asbestos Coordinator US EPA Woodbridge Avenue Edison, NJ 08837 (201) 321-6671
Region 3 DC, DE, MD PA, VA, WV	Asbestos NESHAP Coordinator Air and Toxics Division US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-8683	Regional Asbestos Coordinator US EPA 841 Chestnut Street Philadelphia, PA 19107 (215) 597-3160
Region 4 AL, FL, GA, KY, MS, NC, SC, TN	Asbestos NESHAP Coordinator Air, Pesticide & Toxics Div. US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014	Regional Asbestos Coordinator US EPA 345 Courtland Street Atlanta, GA 30365 (404) 347-5014
Region 5 IL, IN, MI MN, OH, WI	Asbestos NESHAP Coordinator Air & Radiation Division US EPA 230 South Dearborn Street Chicago, IL 60604 (312) 353-6793	Regional Asbestos Coordinator US EPA 230 South Dearborn St. Chicago, IL 60604 (312) 353-6003

AHERA and NESHAP Coordinators

Region	NESHAP	AHERA
Region 6 AR, LA, NM OK, TX	Asbestos NESHAP Coordinator Air, Pesticides & Toxics Div. US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7233	Regional Asbestos Coordinator US EPA 1445 Ross Avenue Suite 1200 Dallas, TX 75202-2733 (214) 655-7244
Region 7 IA, KS MO, NE	Asbestos NESHAP Coordinator Air & Toxics Division US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7618	Regional Asbestos Coordinator US EPA 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7020
Region 8 CO, MT, ND SD, UT, WY	Asbestos NESHAP Coordinator Air & Waste Management Div. US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 294-7685	Regional Asbestos Coordinator US EPA One Denver Place 999 18th Street Suite 500 Denver, CO 80202-2405 (303) 293-1442
Region 9 AS, CA, HI, NV, AZ, GU, TT	Asbestos NESHAP Coordinator Air Management Division US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1135	Regional Asbestos Coordinator US EPA 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1128
Region 10 AK, ID OR, WA	Asbestos NESHAP Coordinator Air & Toxics Management Div. US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-1757	Regional Asbestos Coordinator US EPA 1200 6th Avenue Seattle, WA 98101 (206) 442-4762