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A Guide To The Asbestos NESHAP

As Revised November 1990

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NESHAP as Revised
November 1990**

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

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DISCLAIMER

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A GUIDE TO THE ASBESTOS NESHAP 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" (NESHAP). 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 NESHAP 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

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

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.

NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

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 RACH TO BE REMOVED AND NONFRIABLE ASBESTOS MATERIAL THAT WILL NOT BE REMOVED. SPECIFY THE AMOUNT OF ASBESTOS BELOW.				
		RACH 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 RACH Off Facility Component - Cubic Feet				
Volume RACH 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 NESHAP 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