Environmental Protection Agency

§ 61.141 Definitions.

Each monthly inspection, and of each period when the car seal is broken, when the valve position is changed, or when maintenance on the bypass line valve is performed.

(j) The following reporting requirements are applicable to owners or operators of control devices subject to § 61.139:

(1) Compliance tests shall be reported as specified in § 61.13(f).

(2) The following information shall be reported as part of the semiannual reports required in § 61.138(f):

(i) For each carbon adsorber:

(A) The date and time of detection of each exceedance of the maximum concentration point and a brief description of the time and nature of the corrective action taken.

(B) The date of each time that the captured benzene or removed carbon was not handled as required in § 61.139(b)(1) and (2), and a brief description of the corrective action taken.

(C) The date of each determination of the maximum concentration point, as described in § 61.139(h), and a brief reason for the determination.

(ii) For each vapor incinerator, the date and duration of each exceedance of the boundary parameters recorded under § 61.139(i)(6) and a brief description of the corrective action taken.

(iii) For each vapor incinerator, the date and duration of each period specified as follows:

(A) Each period recorded under § 61.139(i)(7)(i) when the vent stream is diverted from the control device or has no flow rate;

(B) Each period recorded under § 61.139(i)(7)(ii) when the vent stream is diverted from the control device; and

(C) Each period recorded under § 61.139(i)(7)(iii) when the vent stream is diverted from the control device, when the car seal is broken, when the valve is unlocked, or when the valve position has changed.

(iv) For each vapor incinerator, the owner or operator shall specify the method of monitoring chosen under paragraph (f)(2) of this section in the first semiannual report following the change.


Subpart M—National Emission Standard for Asbestos

Authority: 42 U.S.C. 7401, 7412, 7414, 7416, 7601.

Source: 49 FR 13661, Apr. 5, 1984, unless otherwise noted.

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.151, 61.154, and 61.155.

[55 FR 48414, Nov. 20, 1990]

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

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

Adequately wet means sufficiently mix or penetrate with 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 adequately wet.

Asbestos means the asbestiform varieties of serpentine (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 commercial asbestos. As applied to demolition and renovation operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.
§ 61.141

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 by a pollution control device.

Category I nonfriable asbestos-containing material (ACM) means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II nonfriable ACM means any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Commercial asbestos means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, 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’s) 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.

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

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.

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 operation, 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-containing material means any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, 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 buildings and structures, including, but not limited to, the air under a bridge or in an open air 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 RACM 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 (RACM) means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this subpart.

Remove means to take out RACM or facility components that contain or are covered with RACM from any facility.

Renovation means altering a facility or one or more facility components in any way, including the stripping or removal of RACM 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
good
Semiannual reports shall be post-marked by the 30th day following the end of the six-month period.

<table>
<thead>
<tr>
<th>Date of inspection (mo/day/yr)</th>
<th>Time of inspection (a.m./p.m.)</th>
<th>Air cleaning device or fugitive source designation or number</th>
<th>Visible emissions observed (yes/no), corrective action taken</th>
<th>Daily operating hours</th>
<th>Inspector's initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Record of Visible Emission Monitoring
§ 61.143 Standard for roadways.

No person may construct or maintain a roadway with asbestos tailings or asbestos-containing waste material on that roadway, unless, for asbestos tailings:

(a) It is a temporary roadway on an area of asbestos ore deposits (asbestos mine); or

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous...
binder. The encapsulated road surface must be maintained at a minimum frequency of once per year to prevent dust emissions; or

(c) It is encapsulated in asphalt concrete meeting the specifications contained in section 401 of Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP–85, 1985, or their equivalent.


§ 61.144 Standard for manufacturing.

(a) Applicability. This section applies to the following manufacturing operations using commercial asbestos.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, and sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine utilizing asbestos diaphragm technology.

(10) The manufacture of shotgun shell wads.

(11) The manufacture of asphalt concrete.

(b) Standard. Each owner or operator of any of the manufacturing operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from these operations or from any building or structure in which they are conducted or from any other fugitive sources; or

(2) Use the methods specified by § 61.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) Monitor each potential source of asbestos emissions from any part of the manufacturing facility, including air cleaning devices, process equipment, and buildings housing material processing and handling equipment, at least once each day during daylight hours for visible emissions to the outside air during periods of operation. The monitoring shall be by visual observation of at least 15 seconds duration per source of emissions.

(4) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunctions, including, to the maximum extent possible without dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(5) Maintain records of the results of visible emission monitoring and air cleaning device inspections using a format similar to that shown in Figures 1 and 2 and include the following.

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

(iii) Condition of fabric filters, including presence of any tears, holes and abrasions.

(iv) Presence of dust deposits on clean side of fabric filters.

(v) Brief description of corrective actions taken, including date and time.

(vi) Daily hours of operation for each air cleaning device.

(6) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Administrator, all records required under this section.

(7) Retain a copy of all monitoring and inspection records for at least 2 years.

(8) Submit semiannually a copy of the visible emission monitoring records to the Administrator if visible emission occurred during the report period. Semiannual reports shall be postmarked by the 30th day following the end of the six-month period.

§ 61.145 Standard for demolition and renovation.

(a) Applicability. To determine which requirements of paragraphs (a), (b), and (c) of this section apply to the owner or operator of a demolition or renovation activity and prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable ACM. The requirements of paragraphs (b) and (c) of this section apply to each owner or operator of a demolition or renovation activity, including the removal of RACM as follows:

1. In a facility being demolished, all the requirements of paragraphs (b) and (c) of this section apply, except as provided in paragraph (a)(3) of this section, if the combined amount of RACM is:

   i. At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

   ii. At least 1 cubic meter (35 cubic feet) of facility components where the length or area could not be measured previously.

2. In a facility being demolished, only the notification requirements of paragraphs (b)(1), (2), (3)(i) and (iv), and (4)(i) through (7) and (4)(ix) and (xvi) of this section apply, if the combined amount of RACM is:

   i. Less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and

   ii. Less than one cubic meter (35 cubic feet) of facility components where the length or area could not be measured previously or there is no asbestos.

3. If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse, only the requirements of paragraphs (b)(1), (b)(2), (b)(3)(ii), (b)(4) (except (b)(4)(viii)), (b)(5), and (c)(4) through (c)(9) of this section apply.

4. In a facility being renovated, including any individual nonscheduled renovation operation, all the requirements of paragraphs (b) and (c) of this section apply if the combined amount of RACM to be stripped, removed, dislodged, cut, drilled, or similarly disturbed is:

   i. At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components, or

   ii. At least 1 cubic meter (35 cubic feet) of facility components where the length or area could not be measured previously.

(b) Notification requirements. Each owner or operator of a demolition or renovation activity to which this section applies shall:

1. Provide the Administrator with written notice of intention to demolish or renovate. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

2. Update notice, as necessary, including when the amount of asbestos affected changes by at least 20 percent.

3. Postmark or deliver the notice as follows:

   i. At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a)(1), (a)(2), (a)(3)(ii), (a)(4)(viii), (a)(5), and (a)(4) through (c)(9) of this section apply.

   ii. In a facility being renovated, including any individual nonscheduled renovation operation, if the operation is as described in paragraph (a)(2) of this section, notification
(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

(iii) As early as possible before, but not later than, the following working day if the operation is a demolition ordered according to paragraph (a)(3) of this section or, if the operation is a renovation described in paragraph (a)(4)(iv) of this section.

(iv) For asbestos stripping or removal work in a demolition or renovation operation, described in paragraphs (a)(1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section, and for a demolition described in paragraph (a)(2) of this section, that will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator as follows:

(A) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin after the date contained in the notice,

(1) Notify the Administrator of the new start date by telephone as soon as possible before the original start date, and

(2) Provide the Administrator with a written notice of the new start date as soon as possible before, and no later than, the original start date. Delivery of the updated notice by the U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(B) When the asbestos stripping or removal operation or demolition operation covered by this paragraph will begin on a date earlier than the original start date,

(1) Provide the Administrator with a written notice of the new start date at least 10 working days before asbestos stripping or removal work begins.

(2) For demolitions covered by paragraph (a)(2) of this section, provide the Administrator written notice of a new start date at least 10 working days before commencement of demolition. Delivery of updated notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(C) In no event shall an operation covered by this paragraph begin on a date other than the date contained in the written notice of the new start date.

(4) Include the following in the notice:

(i) An indication of whether the notice is the original or a revised notification.

(ii) Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator.

(iii) Type of operation: demolition or renovation.

(iv) Description of the facility or affected part of the facility including the size (square meters [square feet] and number of floors), age, and present and prior use of the facility.

(v) Procedure, including analytical methods, employed to detect the presence of RACM and Category I and Category II nonfriable ACM.

(vi) Estimate of the approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. Also, estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.

(vii) Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated.

(viii) 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 or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

(ix) Scheduled starting and completion dates of demolition or renovation.

(x) Description of planned demolition or renovation work to be performed
§ 61.145

and method(s) to be employed, including demolition or renovation techniques to be used and description of affected facility components.

(xi) Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

(xii) Name and location of the waste disposal site where the asbestos-containing waste material will be deposited.

(xiii) A certification that at least one person trained as required by paragraph (c)(8) of this section will supervise the stripping and removal described by this notification. This requirement shall become effective 1 year after promulgation of this regulation.

(xiv) For facilities described in paragraph (a)(3) of this section, the name, title, and authority of the State or local government representative who has ordered the demolition, the date that the order was issued, and the date on which the demolition was ordered to begin. A copy of the order shall be attached to the notification.

(xv) For emergency renovations described in paragraph (a)(4)(iv) of this section, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

(xvi) Description of procedures to be followed in the event that unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

(xvii) Name, address, and telephone number of the waste transporter.

(5) The information required in paragraph (b)(4) of this section must be reported using a form similar to that shown in Figure 3.

(c) Procedures for asbestos emission control. Each owner or operator of a demolition or renovation activity to whom this paragraph applies, according to paragraph (a) of this section, shall comply with the following procedures:

(1) Remove all RACM from a facility being demolished or renovated before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. RACM need not be removed before demolition if:

(i) It is Category I nonfriable ACM that is not in poor condition and is not friable.

(ii) It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition; or

(iii) It was not accessible for testing and was, therefore, 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 RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

(iv) They are Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.

(2) When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:

(i) Adequately wet all RACM exposed during cutting or disjoining operations; and

(ii) Carefully lower each unit or section to the floor and to ground level, not dropping, throwing, sliding, or otherwise damaging or disturbing the RACM.

(3) When RACM is stripped from a facility component while it remains in place in the facility, adequately wet the RACM during the stripping operation.

(i) In renovation operations, wetting is not required if:

(A) The owner or operator has obtained prior written approval from the Administrator based on a written application that wetting to comply with this paragraph would unavoidably damage equipment or present a safety hazard; and

(B) The owner or operator uses the following emission control methods:
(1) A local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in §61.152.

(2) A glove-bag system designed and operated to contain the particulate asbestos material produced by the stripping of the asbestos materials.

(3) Leak-tight wrapping to contain all RACM prior to dismantlement.

(ii) In renovation operations where wetting would result in equipment damage or a safety hazard, and the methods allowed in paragraph (c)(3)(i) of this section cannot be used, another method may be used after obtaining written approval from the Administrator based upon a determination that it is equivalent to wetting in controlling emissions or to the methods allowed in paragraph (c)(3)(i) of this section.

(iii) A copy of the Administrator's written approval shall be kept at the worksite and made available for inspection.

(4) After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections pursuant to paragraph (c)(2) of this section, it shall be stripped or contained in leak-tight wrapping, except as described in paragraph (c)(5) of this section. If stripped, either:

(i) Adequately wet the RACM during stripping;

(ii) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in §61.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with paragraphs (c)(2), (3), and (4) of this section), the RACM is not required to be stripped if the following requirements are met:

(i) The component is removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM.

(ii) The component is encased in a leak-tight wrapping.

(iii) The leak-tight wrapping is labeled according to §61.149(d)(3)(i), (ii), and (iii) during all loading and unloading operations and during storage.

(6) For all RACM, including material that has been removed or stripped:

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with §61.150; and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

(iii) Transport the material to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections.

(iv) RACM contained in leak-tight wrapping that has been removed in accordance with paragraphs (c)(4) and (c)(3)(i)(B)(3) of this section need not be wetted.

(7) When the temperature at the point of wetting is below 0 °C (32 °F):

(i) The owner or operator need not comply with paragraph (c)(2)(i) and the wetting provisions of paragraph (c)(3) of this section.

(ii) The owner or operator shall remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible.

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

(8) Effective 1 year after promulgation of this regulation, no RACM shall
§ 61.145  

be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one onsite representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained onsite individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

(9) For facilities described in paragraph (a)(3) of this section, adequately wet the portion of the facility that contains RACM during the wrecking operation.

(10) If a facility is demolished by intentional burning, all RACM including Category I and Category II nonfriable ACM must be removed in accordance with the NESHAP before burning.
NOTIFICATION OF DEMOLITION AND RENOVATION

<table>
<thead>
<tr>
<th>Operator Project #</th>
<th>Postmark</th>
<th>Date Received</th>
<th>Notification #</th>
</tr>
</thead>
</table>

**I. TYPE OF NOTIFICATION** (Original, Revised, Canceled)

**II. FACILITY INFORMATION** (Include owner, removal contractor, and other operators)

**OWNER NAME:**
City: State: Zip: Tel:

**REMOVAL CONTRACTOR:**
City: State: Zip: Tel:

**OTHER OPERATOR:**
City: State: Zip: Tel:

**III. TYPE OF OPERATION** (Demo, Demolition, Renovation, Demo-Renovation)

**IV. IS ASBESTOS PRESENT?** (Yes/No)

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

**Building Name:**
City: State: County:

**Site Location:**
Building Size: # of Floors: Age in Years:

**Present Use:** Prior Use:

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

**VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING:**

1. Regulated ACM to be removed
2. Category II ACM Not Removed
3. Category III ACM Not Removed

<table>
<thead>
<tr>
<th>REGULATED ACM</th>
<th>CLASS</th>
<th>Categories</th>
<th>Notifyable Asbestos Material Not To Be Removed</th>
<th>Indicate Unit of Measurement Below</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class I</td>
<td>Cat I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class II</td>
<td>Cat II</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pipes**

<table>
<thead>
<tr>
<th>Surface Area</th>
<th>Unit</th>
</tr>
</thead>
</table>

**VIII. SCHEDULED DATES ASBESTOS REMOVAL** (MM/DD/YY): Starts: Completes:

**IX. SCHEDULED DATES DEMO/RENOVATION** (MM/DD/YY): Starts: Completes:

(Continued on page 2)

Figure 3. Notification of Demolition and Renovation

103
§ 61.146 Standard for spraying.

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1.
§ 61.147 Standard for fabricating.

(a) Applicability. This section applies to the following fabricating operations using commercial asbestos:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) 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.

(b) Standard. Each owner or operator of any of the fabricating operations to which this section applies shall either:

(1) 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

(2) Use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) 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 during spraying and the materials are not friable after drying.

(d) Owners or operators of sources subject to this paragraph are exempt from the requirements of §§ 61.05(a), 61.07 and 61.09.

§ 61.148 Standard for insulating materials.

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this section do not apply to spray-applied insulating materials regulated under § 61.146.

[55 FR 48424, Nov. 20, 1990]

§ 61.149 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions of § 61.142 shall:

(a) Deposit all asbestos-containing waste material at a waste disposal site operated in accordance with the provisions of § 61.154; and

(b) 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 § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or on-site transporting of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:

(1) Use a wetting agent as follows:

(i) 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.

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(iii) Wetting may be suspended when the ambient temperature at the waste disposal site is less than $-9.5^\circ C$ ($15^\circ F$), as determined by an appropriate measurement method with an accuracy of $\pm 1^\circ C$ ($\pm 2^\circ F$). During periods when wetting operations are suspended, the temperature must be recorded at least at hourly intervals, and records must be retained for at least 2 years in a form suitable for inspection.

(2) Use an alternative emission control and waste treatment method that has received prior written approval by the Administrator. To obtain approval for an alternative method, a written application must be submitted to the Administrator demonstrating that the following criteria are met:

(i) The alternative method will control asbestos emissions equivalent to currently required methods.

(ii) The suitability of the alternative method for the intended application.

(iii) The alternative method will not violate other regulations.

(iv) The alternative method will not result in increased water pollution, land pollution, or occupational hazards.

(d) When waste is transported by vehicle to a disposal site:

(1) Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of the waste so that the signs are visible. The markings must:
Environmental Protection Agency

(i) Be displayed in such a manner and location that a person can easily read the legend.
(ii) Conform to the requirements for 51 cm × 36 cm (20 in × 14 in) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend

DANGER

ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only

Notation
2.5 cm (1 inch) Sans Serif, Gothic or Block
1.9 cm (3⁄4 inch) Sans Serif, Gothic or Block
14 Point Gothic

Spacing between any two lines must be equal to the height of the upper of the two lines.

(2) For off-site disposal, provide a copy of the waste shipment record, described in paragraph (e)(1) of this section, to the disposal site owner or operator at the same time as the asbestos-containing waste material is delivered to the disposal site.

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

(1) Maintain asbestos waste shipment records, using a form similar to that shown in Figure 4, and include the following information:
(i) The name, address, and telephone number of the waste generator.
(ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.
(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).
(iv) The name and telephone number of the disposal site operator.
(v) The name and physical site location of the disposal site.
(vi) The date transported.
(vii) The name, address, and telephone number of the transporter(s).
(viii) A certification that the contents of this consignment are fully and accurately described 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.
(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:
(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and
(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.
(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.
(f) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.
<table>
<thead>
<tr>
<th>1. Work site name and mailing address</th>
<th>Owner's name</th>
<th>Owner's telephone no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Operator's name and address</td>
<td>Operator's telephone no.</td>
<td></td>
</tr>
<tr>
<td>3. Waste disposal site (WDS) name, mailing address, and physical site location</td>
<td>WDS phone no.</td>
<td></td>
</tr>
<tr>
<td>4. Name, and address of responsible agency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Description of materials</td>
<td>No.</td>
<td>Type</td>
</tr>
<tr>
<td>6. Containers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Total quantity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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.

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

Figure 4. 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.

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.

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

(continued)

Figure 4. Waste Shipment Record
§ 61.150  Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

Each owner or operator of any source covered under the provisions of §§ 61.144, 61.145, 61.146, and 61.147 shall comply with the following provisions:

(a) Discharge no visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, or use one of the emission control and waste treatment methods specified in paragraphs (a)(1) through (4) of this section.

(1) Adequately wet asbestos-containing waste material as follows:
   (i) Mix control device asbestos waste to form a slurry; adequately wet other asbestos-containing waste material; and
   (ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and
   (iii) 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
   (iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section 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 shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material 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.
(2) Process asbestos-containing waste material into nonfriable forms as follows:
   (i) Form all asbestos-containing waste material into nonfriable pellets or other shapes;
   (ii) Discharge no visible emissions to the outside air from collection and processing operations, including incin-
       eration, or use the method specified by §61.152 to clean emissions containing particulate asbestos material before
       they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to dem-
       olition according to §§61.145(c)(1) (i), (ii), (iii), and (iv) or for facilities de-
       molished according to §61.145(c)(9), ade-
       quately wet asbestos-containing waste material at all times after demolition
       and keep wet during handling and loading for transport to a disposal site. As-
       bestos-containing waste materials cov-
       ered by this paragraph do not have to
       be sealed in leak-tight containers or
       wrapping but may be transported and
       disposed of in bulk.

(4) Use an alternative emission con-
       trol and waste treatment method that
       has received prior approval by the Ad-
       ministrator according to the procedure
       described in §61.149(c)(2).

(5) As applied to demolition and ren-
       ovation, the requirements of paragraph
       (a) of this section do not apply to Cat-
       egory I nonfriable ACM waste and Cat-
       egory II nonfriable ACM waste that did
       not become crumbled, pulverized, or re-
       duced to powder.

(b) All asbestos-containing waste ma-
       terial shall be deposited as soon as is
       practical by the waste generator at:
       (1) A waste disposal site operated in
           accordance with the provisions of
           §61.154, or
       (2) An EPA-approved site that con-
           verts RACM and asbestos-containing
           waste material into nonasbestos (as-
          bestos-free) material according to the
           provisions of §61.155.

(3) The requirements of paragraph (b) of this section do not apply to Cat-
       egory I nonfriable ACM that is not
       RACM.

(c) Mark vehicles used to transport asbestos-containing waste material
       during the loading and unloading of
       waste so that the signs are visible. The
       markings must conform to the require-
       ments of §§61.149(d)(1) (i), (ii), and (iii).

(d) For all asbestos-containing waste material transported off the facility
       site:
       (1) Maintain waste shipment records,
           using a form similar to that shown in
           Figure 4, and include the following in-
           formation:
           (i) The name, address, and telephone
               number of the waste generator.
           (ii) The name and address of the
               local, State, or EPA Regional office re-
               sponsible for administering the asbes-
               tos NESHAP program.
           (iii) The approximate quantity in
               cubic meters (cubic yards).
           (iv) The name and telephone number
               of the disposal site operator.
           (v) The name and physical site loca-
               tion of the disposal site.
           (vi) The date transported.
           (vii) The name, address, and tele-
               phone number of the transporter(s).
           (viii) A certification that the con-
               tents of this consignment are fully and
               accurately described by proper ship-
               ping name and are classified, packed,
               marked, and labeled, and are in all re-
               spects in proper condition for transport
               by highway according to applicable
               international and government regula-
               tions.
       (2) Provide a copy of the waste ship-
           ment record, described in paragraph
           (d)(1) of this section, to the disposal
           site owners or operators at the same
           time as the asbestos-containing waste
           material is delivered to the disposal
           site.
       (3) For waste shipments where a copy
           of the waste shipment record, signed by
           the owner or operator of the designated
           disposal site, is not received by the
           waste generator within 35 days of the
           date the waste was accepted by the ini-
           tial transporter, contact the trans-
           porter and/or the owner or operator of
           the designated disposal site to deter-
           mine the status of the waste shipment.
       (4) Report in writing to the local,
           State, or EPA Regional office respon-
           sible for administering the asbestos
           NESHAP program for the waste gener-
           ator if a copy of the waste shipment
           record, signed by the owner or operator
           of the designated waste disposal site, is
           not received by the waste generator
           within 45 days of the date the waste
           was
§61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under §61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

(a) Comply with one of the following:
(1) Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to this paragraph; or
(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste 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
(3) 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
(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a) (1), (2), and (3) of this section. 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. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) Unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with paragraph (a)(2) or (a)(3) of this section.

(1) Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:
(i) Be posted in such a manner and location that a person can easily read the legend; and
(ii) Conform to the requirements for 51 cm × 36 cm (20 × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and
(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

<table>
<thead>
<tr>
<th>Legend</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Waste Disposal Site.</td>
<td>2.5 cm (1 inch) Sans Serif, Gothic or Block</td>
</tr>
<tr>
<td>Do Not Create Dust ..............</td>
<td>1.9 cm (¾ inch) Sans Serif, Gothic or Block</td>
</tr>
<tr>
<td>Breathing Asbestos is Hazardous to Your Health.</td>
<td>14 Point Gothic.</td>
</tr>
</tbody>
</table>

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) Fence the perimeter of the site in a manner adequate to deter access by the general public.

(3) When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator
Environmental Protection Agency

§ 61.152 Air-cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(1), 61.145(c)(4)(ii), 61.145(c)(10)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(iii), 61.150(a)(2)(iii), and 61.155(e) shall:

(1) Use fabric filter collection devices, except as noted in paragraph (b) of this section, doing all of the following:

(i) Ensuring that the airflow permeability, as determined by ASTM Method D737–75, does not exceed 9 m\(^3\)/min/m\(^2\) (30 ft\(^3\)/min/ft\(^2\)) for woven fabrics or 11\(\frac{3}{4}\) m\(^3\)/min/m\(^2\) (35 ft\(^3\)/min/ft\(^2\)) for felted fabrics, except that 12 m\(^3\)/min/m\(^2\) (40 ft\(^3\)/min/ft\(^2\)) for woven and 14 m\(^3\)/min/m\(^2\) (45 ft \(^3\)/min/ft\(^2\)) for felted fabrics is allowed for filtering air from asbestos ore dryers; and

(ii) Ensuring that felted fabric weighs at least 475 grams per square meter (14 ounces per square yard) and is at least 1.6 millimeters (one-sixteenth inch) thick throughout; and

(iii) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(3) For fabric filter collection devices installed after January 10, 1989, provide for easy inspection for faulty bags.

(b) There are the following exceptions to paragraph (a)(1):

(1) After January 10, 1989, if the use of fabric creates a fire or explosion hazard, or the Administrator determines that a fabric filter is not feasible, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).
§ 61.153 Use of HEPA filter.

(2) Use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles.

(3) The Administrator may authorize the use of filtering equipment other than described in paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

§ 61.153 Reporting.

(a) Any new source to which this subpart applies (with the exception of sources subject to §§ 61.143, 61.145, 61.146, and 61.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of a new source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator postmarked or delivered within 90 days of the effective date. In the case of an existing source that does not have an initial startup date preceding the effective date, the information shall be provided, postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator postmarked or delivered, within 90 days of the initial startup date. Any owner or operator of an existing source shall provide the following information to the Administrator postmarked or delivered, within 30 days after the change.

(1) A description of the emission control equipment used for each process; and

(i) If the fabric device uses a woven fabric, the airflow permeability in m³/min/m² (ft³/min/ft²) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and
(ii) If the fabric filter device uses a felted fabric, the density in g/m² (oz/yd²), the minimum thickness in millimeters (inches), and the airflow permeability in m³/min/m² (ft³/min/ft²).

(2) If a fabric filter device is used to control emissions, (i) The airflow permeability in m³/min/m² (ft³/min/ft²) if the fabric filter device uses a woven fabric, and, if the fabric is synthetic, whether the fill yarn is spun or not spun; and
(ii) If the fabric filter device uses a felted fabric, the density in g/m² (oz/yd²), the minimum thickness in millimeters (inches), and the airflow permeability in m³/min/m² (ft³/min/ft²).

(3) If a HEPA filter is used to control emissions, the certified efficiency.

(4) For sources subject to §§ 61.149 and 61.150:

(i) A brief description of each process that generates asbestos-containing waste material; and
(ii) The average volume of asbestos-containing waste material disposed of, measured in m³/day (yd³/day); and
(iii) The emission control methods used in all stages of waste disposal; and
(iv) 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.

(5) For sources subject to §§ 61.151 and 61.154:

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

(b) The information required by paragraph (a) of this section must accompany the information required by §61.10. Active waste disposal sites subject to §61.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of §61.10(a). The information described in this section must be reported using the format of appendix A of this part as a guide.

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under §§ 61.149, 61.150, or 61.155 shall meet the requirements of this section:
(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 of paragraph (c) or (d) of this section must be met.

(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 requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm \(\times\) 36 cm (20″ \(\times\) 14″) upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

<table>
<thead>
<tr>
<th>Legend</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Waste Disposal Site.</td>
<td>2.5 cm (1 inch) Sans Serif, Gothic or Block.</td>
</tr>
<tr>
<td>Do Not Create Dust</td>
<td>1.9 cm (³⁄₄ inch) Sans Serif, Gothic or Block.</td>
</tr>
<tr>
<td>Breathing Asbestos is Hazardous to Your Health.</td>
<td>14 Point Gothic.</td>
</tr>
</tbody>
</table>

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:

(1) Be covered with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in §61.149(c)(2).

(e) For all asbestos-containing waste material received, the owner or operator of the active waste disposal site shall:

(1) Maintain waste shipment records, using a form similar to that shown in Figure 4, and include the following information:

(i) The name, address, and telephone number of the waste generator.

(ii) The name, address, and telephone number of the transporter(s).

(iii) The quantity of the asbestos-containing waste material in cubic meters (cubic yards).

(iv) The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report.
§ 61.155 Standard for operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material.

Each owner or operator of an operation that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material shall:

(a) Obtain the prior written approval of the Administrator to construct the facility. To obtain approval, the owner or operator shall provide the Administrator with the following information:

(1) Application to construct pursuant to § 61.07.

(b) Conduct a start-up performance test. Test results shall include:

(1) Scheduled starting and completion dates.

(c) Reason for disturbing the waste.

(d) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(e) Location of any temporary storage site and the final disposal site.

(f) 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.

(g) Upon closure, comply with all the provisions of § 61.151.

(h) Submit to the Administrator, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities.

(i) Furnish upon request, and make available during normal business hours for inspection by the Administrator, all records required under this section.

(j) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

(3) Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Administrator may require changes in the emission control procedures to be used.

(4) Location of any temporary storage site and the final disposal site.

(5) Description of waste feed handling and temporary storage.

(6) Description of process operating conditions.

(7) Description of the handling and temporary storage of the end product.

(8) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.

(9) Performance test protocol, including provisions for obtaining information required under paragraph (b) of this section.

(10) The Administrator may require that a demonstration of the process be performed prior to approval of the application to construct.

(b) Conduct a start-up performance test. Test results shall include:

(1) A detailed description of the types and quantities of nonasbestos material,
RACM, and asbestos-containing waste material processed, e.g., asbestos cement products, friable asbestos insulating, plaster, wood, plastic, wire, etc. Test feed is to include the full range of materials that will be encountered in actual operation of the process.

(2) Results of analyses, using polarized light microscopy, that document the asbestos content of the wastes processed.

(3) Results of analyses, using transmission electron microscopy, that document that the output materials are free of asbestos. Samples for analysis are to be collected as 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

(4) A description of operating parameters, such as temperature and residence time, defining the full range over which the process is expected to operate to produce nonasbestos (asbestos-free) materials. Specify the limits for each operating parameter within which the process will produce nonasbestos (asbestos-free) materials.

(5) The length of the test.

(c) During the initial 90 days of operation,

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output materials. Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analyzed for asbestos. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) 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.

(d) After the initial 90 days of operation,

(1) Continuously monitor and record the operating parameters identified during start-up performance testing and any subsequent performance testing. Any output produced during a period of deviation from the range of operating conditions established to ensure the production of nonasbestos (asbestos-free) output materials shall be:

(i) Disposed of as asbestos-containing waste material according to §61.150, or

(ii) Recycled as waste feed during process operation within the established range of operating conditions, or

(iii) Stored temporarily on-site in a leak-tight container until analyzed for asbestos content. Any product material that is not asbestos-free shall be either disposed of as asbestos-containing waste material or recycled as waste feed to the process.

(2) Collect and analyze monthly composite samples (one 200-gram (7-ounce) 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.

(e) Discharge no visible emissions to the outside air from any part of the operation, or use the methods specified by §61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records on-site and include the following information:

(1) Results of start-up performance testing and all subsequent performance testing, including operating parameters, feed characteristic, and analyses of output materials.

(2) Results of the composite analyses required during the initial 90 days of operation under §61.155(c).

(3) Results of the monthly composite analyses required under §61.155(d).

(4) Results of continuous monitoring and logs of process operating parameters required under §61.155(c) and (d).

(5) The information on waste shipments received as required in §61.154(e).

(6) For output materials where no analyses were performed to determine the presence of asbestos, record the name and location of the purchaser or
disposal site to which the output materials were sold or deposited, and the date of sale or disposal.

(7) Retain records required by paragraph (f) of this section for at least 2 years.

(g) Submit the following reports to the Administrator:

(1) A report for each analysis of product composite samples performed during the initial 90 days of operation.

(2) A quarterly report, including the following information concerning activities during each consecutive 3-month period:

(i) Results of analyses of monthly product composite samples.

(ii) A description of any deviation from the operating parameters established during performance testing, the duration of the deviation, and steps taken to correct the deviation.

(iii) Disposition of any product produced during a period of deviation, including whether it was recycled, disposed of as asbestos-containing waste material, or stored temporarily on-site until analyzed for asbestos content.

(iv) The information on waste disposal activities as required in §61.154(f).

(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 TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

§61.156 Cross-reference to other asbestos regulations.

In addition to this subpart, the regulations referenced in Table 1 also apply to asbestos and may be applicable to those sources specified in §§61.142 through 61.151, 61.154, and 61.155 of this subpart. These cross-references are presented for the reader’s information and to promote compliance with the cited regulations.

<table>
<thead>
<tr>
<th>Agency</th>
<th>CFR citation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA</td>
<td>40 CFR part 763, subpart E</td>
<td>Requires schools to inspect for asbestos and implement response actions and submit asbestos management plans to States. Specifies use of accredited inspectors, air sampling methods, and waste disposal procedures.</td>
</tr>
<tr>
<td></td>
<td>40 CFR part 763, subpart G</td>
<td>Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.</td>
</tr>
<tr>
<td>OSHA</td>
<td>29 CFR 1910.1001</td>
<td>Worker protection measures—engineer controls, worker training, labeling, respiratory protection, bagging of waste, 0.2 f/cc permissible exposure level.</td>
</tr>
<tr>
<td></td>
<td>29 CFR 1926.58</td>
<td>Worker protection measures for all construction work involving asbestos, including demolition and renovation—work practices, worker training, bagging of waste, 0.2 f/cc permissible exposure level.</td>
</tr>
<tr>
<td>MSHA</td>
<td>30 part CFR 56, subpart D</td>
<td>Specifies exposure limits, engineering controls, and respiratory protection measures for workers in surface mines.</td>
</tr>
<tr>
<td></td>
<td>30 CFR part 57, subpart D</td>
<td>Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.</td>
</tr>
<tr>
<td>DOT</td>
<td>49 CFR parts 171 and 172</td>
<td>Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.</td>
</tr>
</tbody>
</table>

§61.157 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities that will not be delegated to States:

(1) Section 61.149(c)(2)

(2) Section 61.150(a)(4)
Environmental Protection Agency

1. Applicability of the Asbestos NESHAP

1.1. Asbestos-containing material (ACM) is material containing more than one percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1. Polarized Light Microscopy. The NESHAP classifies ACM as either “friable” or “nonfriable.” Friable ACM is ACM that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable ACM is ACM that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

1.2. Nonfriable ACM is further classified as either Category I ACM or Category II ACM. Category I ACM and Category II ACM are distinguished from each other by their potential to release fibers when damaged. Category I ACM includes asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products containing more than one percent asbestos. Asphalt roofing products which may contain asbestos include built-up roofing; asphalt-containing single ply membrane systems; asphalt shingles; asphalt-containing underlayment felts; asphalt-containing roof coatings and mastics; and asphalt-containing base flashings. ACM roofing products that use other bituminous or resinous binders (such as coal tar or pitches) are also considered to be Category I ACM. Category II ACM includes all other nonfriable ACM, for example, asbestos-cement (A/C) shingles, A/C tiles, and transite boards or panels containing more than one percent asbestos. Generally speaking, Category II ACM is more likely to become friable when damaged than is Category I ACM. The applicability of the NESHAP to Category I and II ACM depends on: (1) the condition of the material at the time of demolition or renovation, (2) the nature of the operation to which the material will be subjected, (3) the amount of ACM involved.

1.3. Asbestos-containing material regulated under the NESHAP is referred to as “regulated asbestos-containing material” (RACM). RACM is defined in §61.141 of the NESHAP and includes: (1) friable asbestos-containing material; (2) Category I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that has been or will be sanded, ground, cut, or abraded; and (4) Category II nonfriable ACM that has already been or is likely to be crumbled, pulverized, or reduced to powder. If the coverage threshold for RACM is met or exceeded in a renovation or demolition operation, then all friable ACM in the operation, and in certain situations, nonfriable ACM in the operation, are subject to the NESHAP.

A. Threshold Amounts of Asbestos-Containing Roofing Material

1. A.1. The NESHAP does not cover roofing projects on single family homes or on residential buildings containing four or fewer dwelling units. 40 CFR 61.141. For other roofing renovation projects, if the total asbestos-containing roof area undergoing renovation is less than 160 ft², the NESHAP does not apply, regardless of the removal method to be used, the type of material (Category I or II), or its condition (friable versus nonfriable). 40 CFR 61.145(a)(4). However, EPA would recommend the use of methods that damage asbestos-containing roofing material as little as possible. EPA has determined that where a rotating blade (RB) roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, the removal of 5580 ft² of that material will create 160 ft² of RACM. For the purposes of this interpretive rule, “RB roof cutter” means an engine-powered roof cutting machine with one or more rotating cutting blades the edges of which are blunt. (Equipment with blades having sharp or tapered edges, and/or which does not use a rotating blade, is used for “slicing” rather than “cutting” the roofing material; such equipment is not included in the term “RB roof cutter.”) Therefore, it is EPA’s interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, any project that is 5580 ft² or greater is subject to the NESHAP; conversely, it is EPA’s interpretation that when an RB roof cutter or equipment that similarly damages the roofing material is used to remove Category I nonfriable asbestos-containing roofing material, any project that is 5580 ft² or less is not subject to the NESHAP.

1.A.2. For asbestos cement (A/C) shingles (or other Category II roofing material), if the area of the roofing material to be removed is at least 160 ft² and the removal methods will crumble, pulverize, reduce to powder, or contaminate with RACM (from other ACM that has been crumbled, pulverized or reduced to...

powder) 160 ft² or more of such roofing mate-
rial, the removal is subject to the NESHAP.
Conversely, if the area of the A/C shingles (or
other Category II roofing materials) to be re-
moved is less than 160 ft², the removal is not
subject to the NESHAP regardless of the re-
moval method used, except that notification
is always required for demolitions. 40 CFR
61.145(a). However, EPA would recommend
the use of methods that damage asbestos-
containing roofing material as little as possi-
ble. If A/C shingles (or other Category II
roofing materials) are removed without 160
ft² or more of such roofing material being
crumbled, pulverized, reduced to powder, or
contaminated with RACM (from other ACM
that have been crumbled, pulverized or re-
duced to powder), the operation is not sub-
tected to the NESHAP, even where the total
area of the roofing material to be removed
exceeds 160 ft². Provided, however, that if the
removal includes other operations involv-
ing RACM, the roof removal operation is
covered if the total area of RACM from all
removal activities exceeds 160 ft². See the de-
definition of regulated asbestos-containing
material (RACM), 40 CFR 61.141.

1.A.3. Only roofing material that meets the defi-
nition of ACM can qualify as RACM sub-
tected to the NESHAP. Therefore, to determine
if a removal operation that meets or exceeds
the coverage threshold is subject to the
NESHAP, any suspect roofing material (i.e.
roofing material that may be ACM) should
be tested for asbestos. If any such roofing
material contains more than one percent as-
bestos and if the removal operation is cov-
ered by the NESHAP, then EPA must be no-
tified and the work practices in §61.145(c)
must be followed. In EPA’s view, if a re-
moval operation involves at least the thresh-
old level of suspect material, a roofing con-
tactor may choose not to test for asbestos if
the contractor follows the notification and
work practice requirements of the NESHAP.

B. A/C Shingle Removal (Category II ACM
Removal)

1.B.1. A/C shingles, which are Category II
nonfriable ACM, become regulated ACM if
the material has a high probability of be-
coming or has become crumbled, pulverized
or reduced to powder by the forces expected
to act on the material in the course of demo-
lition or renovation operations. 40 CFR
61.141. However, merely breaking an A/C
shingle (or any other category II ACM) that
is not friable may not necessarily cause the
material to become RACM. A/C shingles are
typically nailed to buildings on which they
are attached. EPA believes that the extent of
breakage that will normally result from
carefully removing A/C shingles and low-
ering the shingles to the ground will not re-
sult in crumbling, pulverizing or reducing
the shingles to powder. Conversely, the ex-
tent of breakage that will normally occur if
the A/C shingles are dropped from a building
or scraped off of a building with heavy ma-
chinery would cause the shingles to become
RACM. EPA therefore construes the
NESHAP to mean that the removal of A/C
shingles that are not friable, using methods
that do not crumble, pulverize, or reduce the
A/C shingles to powder (such as pry bars, spud
bars and shovels to carefully pry the
material), is not subject to the NESHAP pro-
vided that the A/C shingles are properly han-
dled during and after removal, as discussed
in this paragraph and the asbestos NESHAP.
This interpretation also applies to other Cat-
egory II nonfriable asbestos-containing roof-
ing materials.

C. Cutting vs. Slicing and Manual Methods
for Removal of Category I ACM

1.C.1. Because of damage to the roofing ma-
terial, and the potential for fiber release,
roof removal operations using rotating blade
(RB) roof cutters or other equipment that
sand, grind, cut or abrade the roof material
are subject to the NESHAP. As EPA inter-
prets the NESHAP, the use of certain man-
ual methods (using equipment such as axes,
hatchets, or knives, spud bars, pry bars, and
shovels, but not saws) or methods that slice,
shear, or punch (using equipment such as a
power slicer or power plow) does not con-
stitute “cutting, sanding, grinding or abrad-
ing.” This is because these methods do not
destroy the structural matrix or integrity of
the material such that the material is crum-
bled, pulverized or reduced to powder. Hence,
it is EPA’s interpretation that when such
methods are used, assuming the roof mate-
rial is not friable, the removal operation is
not subject to the regulation.

1.C.2. Power removers or power tear-off
machines are typically used to pry the roof-
ing material up from the deck after the roof
membrane has been cut. It is EPA’s inter-
pretation that when these machines are used to
pry roofing material up, their use is not reg-
ulated by the NESHAP.

1.C.3. As noted previously, the NESHAP
only applies to the removal of asbestos-con-
taining roofing materials. Thus, the
NESHAP does not apply to the use of RB
cutters to remove non-asbestos built up roof-
ing (BUR). On roofs containing some asbes-
tos-containing and some non-asbestos-con-
taining materials, coverage under the
NESHAP depends on the methods used to re-
move each type of material in addition to
other coverage thresholds specified above.
For example, it is not uncommon for exist-
ing roofs to be made of non-asbestos BUR
and base flashings that do contain asbestos.
In that situation, EPA construes the
NESHAP to be inapplicable to the removal of
the non-asbestos BUR using an RB cutter so
long as the RB cutter is not used to cut 3580

120
ft² or more of the asbestos-containing base
material into sections. In addition, the use of
methods that slice, shear, punch or pry could
then be used to remove the asbestos
flashings and not trigger coverage under the
NESHAP.

II. Notification

2.1 Notification for a demolition is always
required under the NESHAP. However, EPA
believes that few roof removal jobs con-
stitute “demolitions” as defined in the
NESHAP (§61.141). In particular, it is EPA’s
view that the removal of roofing systems
(i.e., the roof membrane, insulation, sur-
facing, coatings, flashings, mastic, shingles,
and felt underlayment), when such removal
is not a part of a demolition project, con-
stitutes a “renovation” under the NESHAP.
If the operation is a renovation, and Cat-
egory I roofing material is being removed
using either manual methods or slicing, noti-
fication is not required by the NESHAP. If
Category II material is not friable and will
be removed without crumbling, pulverizing,
or reducing it to powder, no notification is
required. Also, if the renovation involves less
than the threshold area for applicability as
discussed above, then no notification is re-
quired. However, if a roof removal meets the
applicability and threshold requirements
under the NESHAP, then EPA (or the dele-
gated agency) must be notified in advance of
the removal in accordance with the require-
ments of §61.145(b), as follows:

• Notification must be given in writing at
least 10 working days in advance and must
include the information in §61.145(b)(4), ex-
cept for emergency renovations as discussed
below.

• The notice must be updated as necessary,
including, for example, when the amount of
asbestos-containing roofing material re-
ported changes by 20 percent or more.

• EPA must be notified if the start date of
the roof removal changes. If the start date of
a roof removal project is changed to an ear-
lier date, EPA must be provided with a writ-
ten notice of the new start date at least 10
working days in advance. If the start date
changes to a later date, EPA must be noti-
fied by telephone as soon as possible before
the original start date and a written notice
must be sent as soon as possible.

• For emergency renovations (as defined in
§61.141), where work must begin immediately
to avoid safety or public health hazards,
equipment damage, or unreasonable finan-
cial burden, the notification must be post-
marked or delivered to EPA as soon as pos-
sible, but no later than the following work
day.

V. Discharge of Waste

3.1. The principal controls contained in
the NESHAP for removal operations include
requirements that the affected material be
adequately wetted, and that asbestos waste
be handled, collected, and disposed of prop-
erly. The requirements for disposal of waste
materials are discussed separately in section
IV below. The emission control requirements
discussed in this section III apply only to
roof removal operations that are covered by
the NESHAP as set forth in Section I above.
3.2. For any operation subject to the
NESHAP, the regulation (§61.145(c)(2)(i), (3),
(6)(i)) requires that RACM be adequately wet
(as defined in §61.141) during the operation
that damages or disturbs the asbestos mate-
rial until collected for disposal.
3.3. When using an RB roof cutter (or any
other method that sands, grinds, cuts or ab-
rades the roofing material) to remove Cat-
egory I asbestos-containing roofing material,
the emission control requirements of
§61.145(c) apply as discussed in Section I
above. EPA will consider a roof removal
project to be in compliance with the “ade-
quately wet” and “discharge no visible emis-
sion” requirements of the NESHAP if the RB
roof cutter is equipped and operated with the
following: (1) a blade guard that completely
encloses the blade and extends down close to
the roof surface; and (2) a device for spraying
a fine mist of water inside the blade guard,
and which device is in operation during the
cutting of the roof.

B. Exemptions From Wetting Requirements

3.1. The NESHAP provides that, in cer-
tain instances, wetting may not be required
during the cutting of Category I asbestos
roofing material with an RB roof cutter. If
EPA determines in accordance with
§61.145(c)(3)(i); that wetting will unavoidably
damage the building, equipment inside the
building, or will present a safety hazard
while stripping the ACM from a facility com-
ponent that remains in place, the roof re-
moval operation will be exempted from the
requirement to wet during cutting. EPA
must have sufficient written information on
which to base such a decision. Before pro-
ceeding with a dry removal, the contractor
must have received EPA’s written approval.
Such exemptions will be made on a case-by-
case basis.

3.2. It is EPA’s view that, in most in-
estances, exemptions from the wetting re-
quirements are not necessary. Where EPA
grants an exemption from wetting because of
the potential for damage to the building,
damage to equipment within the building or
a safety hazard, the NESHAP specifies alter-
native control methods (§61.145(c)(3)(i)(B)).
Alternative control methods include (a) the use of local exhaust ventilation systems that capture the dust, and do not produce visible emissions, or (b) methods that are designed and operated in accordance with the requirements of §61.152, or (c) other methods that have received the written approval of EPA. EPA will consider an alternative emission control method in compliance with the NESHAP if the method has received written approval from EPA and the method is being implemented consistent with the approved procedures (§61.145(c)(ii)) or §61.152(b)(3).

3.B.3. An exemption from wetting is also allowed when the air or roof surface temperature at the point of wetting is below freezing, as specified in §61.145(c)(7). If freezing temperatures are indicated as the reason for not wetting, records must be kept of the temperature at the beginning, middle and end of the day on which wetting is not performed and the records of temperature must be retained for at least 2 years. 42 CFR §61.145(c)(7)(iii). It is EPA’s interpretation that in such cases, no written application to, or written approval by the Administrator is needed for using emission control methods listed in §61.145(c)(3)(i)(B), or alternative emission control methods that have been previously approved by the Administrator. However, such written application or approval is required for alternative emission control methods that have not been previously approved. Any dust and debris collected from cutting must still be kept wet and placed in containers. All of the other requirements for notification and waste disposal would continue to apply as described elsewhere in this notice and the Asbestos NESHAP.

C. Waste Collection and Handling

3.C.1. It is EPA's interpretation that waste resulting from slicing and other methods that do not cut, grind, sand or abrade Category I nonfriable asbestos-containing roofing material is not subject to the NESHAP and can be disposed of as nonasbestos waste. EPA further construes the NESHAP to provide that if Category II roofing material (such as A/C shingles) is removed and disposed of without crumbling, pulverizing, or reducing it to powder, the waste from the removal is not subject to the NESHAP waste disposal requirements. EPA also interprets the NESHAP to be inapplicable to waste resulting from roof removal operations that do not meet or exceed the coverage thresholds described in section I above. Of course, other State, local, or Federal regulations may apply.

3.C.2. It is EPA's interpretation that when an RB roof cutter, or other method that similarly damages the roofing material, is used to cut Category I asbestos containing roofing material, the damaged material from the cut (the sawdust or debris) is considered asbestos containing waste subject to §61.150 of the NESHAP, provided the coverage thresholds discussed above in section 1 are met or exceeded. The sawdust or debris must be disposed of at a disposal site operated in accordance with the NESHAP. It is also EPA’s interpretation of the NESHAP that the sawdust or debris generated by the cutting, or if such sawdust or debris is collected as discussed below in paragraphs 3.C.3, 3.C.4, 3.C.5 and 3.C.6, the remainder of the roof can be disposed of as nonasbestos waste because it is considered to be Category I nonfriable material (as long as the remainder of the roof is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material). EPA further believes that if the roof is not cleaned of such sawdust or debris, i.e., it is contaminated, then it must be treated as asbestos-containing waste material and be handled in accordance with §61.150.

3.C.3. In order to be in compliance with the NESHAP while using an RB roof cutter (or device that similarly damages the roofing material) to cut Category I asbestos containing roofing material, the dust and debris resulting from the cutting of the roof should be collected as soon as possible after the cutting operation, and kept wet until collected and placed in leak-tight containers. EPA believes that where the blade guard completely encloses the blade and extends down close to the roof surface and is equipped with a device for spraying a fine mist of water inside the blade guard, and the spraying device is in operation during the cutting, most of the dust and debris from cutting will be confined along the cut. The most efficient methods to collect the dust and debris from cutting are to immediately collect or vacuum up the damaged material where it lies along the cut using a filtered vacuum cleaner or debris collector that meets the requirements of 40 CFR §61.152 to clean up as much of the debris as possible, or to gently sweep up the bulk of the debris, and then use a filtered vacuum cleaner that meets the requirements of 40 CFR §61.152 to clean up as much of the remainder of the debris as possible. On smooth surfaced roofs (nonaggregate roofs), sweeping up the debris and then wet wiping the surface may be done in place of using a filtered vacuum cleaner. It is EPA’s view that if these decontamination procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste. Additionally, it is EPA’s view that where such decontamination procedures are followed, if the remaining portions of the roof are non-asbestos or Category I nonfriable asbestos material, and if the remaining portions are removed using removal methods that slice, shear, punch or
Environmental Protection Agency

py, as discussed in section 1.C above, then the remaining portions do not have to be collected and disposed of as asbestos waste and the NESHAP’s no visible emissions and adequately wet requirements are not applicable to the removal of the remaining portions. In EPA’s interpretation, the failure of a filtered vacuum cleaner or debris collector to collect larger chunks or pieces of damaged roofing material created by the RB roof cutter does not require the remaining roofing material to be handled and disposed of as asbestos waste, provided that such visible chunks or pieces of roofing material are collected (e.g., by gentle sweeping) and disposed of as asbestos waste. Other methods of decontamination may not be adequate, and should be approved by the local delegated agency.

3.C.4. In EPA’s interpretation, if the debris from the cutting is not collected immediately, it will be necessary to lightly mist the dust or debris, until it is collected, as discussed above, and placed in containers. The dust or debris should be lightly misted frequently enough to prevent the material from drying, and to prevent airborne emissions, prior to collection as described above. It is EPA’s interpretation of the NESHAP that if these procedures are followed, the remaining roofing material does not have to be collected and disposed of as asbestos waste, as long as the remaining roof material is in fact nonasbestos material or if it is Category I asbestos material and the removal methods do not further sand, grind, cut or abrade the roof material.

3.C.5. It is EPA’s interpretation that, provided the roofing material is not friable prior to the cutting operation, and provided the roofing material has not been made friable by the cutting operation, the appearance of rough, jagged or damaged edges on the remaining roofing material, due to the use of an RB roof cutter, does not require that such remaining roofing material be handled and disposed of as asbestos waste. In addition, it is also EPA’s interpretation that if the sawdust or debris generated by the use of an RB roof cutter has been collected as discussed in paragraphs 3.C.3, 3.C.4 and 3.C.6, the presence of dust along the edge of the remaining roof material does not render such material “friable” for purposes of this interpretive rule or the NESHAP, provided the roofing material is not friable prior to the cutting operation, and provided that the remaining roofing material near the cutline has not been made friable by the cutting operation. Where roofing material near the cutline has been made friable by the use of the RB cutter (i.e., where such remaining roofing material near the cutline can be crumbled, pulverized or reduced to powder using hand pressure), it is EPA’s interpretation that the use of an encapsulant will ensure that such friable material need not be treated or disposed of as asbestos containing waste material. The encapsulant may be applied to the friable material after the roofing material has been collected into stacks for subsequent disposal as nonasbestos waste. It is EPA’s view that if the encapsulation procedure set forth in this paragraph is followed in operations where roofing material near the cutline has been rendered friable by the use of an RB roof cutter, and if the decontamination procedures set forth in paragraph 3.C.3 have been followed, the NESHAP’s no visible emissions and adequately wet requirements would be met for the remaining, handling and disposal of the remaining roofing material.

3.C.6. As one way to comply with the NESHAP, the dust and debris from cutting can be placed in leak-tight containers, such as plastic bags, and the containers labeled using warning labels required by OSHA (29 CFR 1926.58). In addition, the containers must have labels that identify the waste generator (such as the name of the roofing contractor, abatement contractor, and/or building owner or operator) and the location of the site at which the waste was generated.

IV. Waste Disposal

A. Disposal Requirements

4.A.1. Section 61.150(b) requires that, as soon as is practical, all collected dust and debris from cutting as well as any contaminated roofing squares, must be taken to a landfill that is operated in accordance with §61.154 or to an EPA-approved site that converts asbestos waste to nonasbestos material in accordance with §61.155. During the loading and unloading of affected waste, asbestos warning signs must be affixed to the vehicles.

B. Waste Shipment Record

4.B.1. For each load of asbestos waste that is regulated under the NESHAP, a waste shipment record (WSR) must be maintained in accordance with §61.150(d). Information that must be maintained for each waste load includes the following:

- Name, address, and telephone number of the waste generator
- Name and address of the local, State, or EPA regional office responsible for administering the asbestos NESHAP program
- Quantity of waste in cubic meters (or cubic yards)
- Name and telephone number of the disposal site operator
- Name and physical site location of the disposal site
- Date transported
- Name, address, and telephone number of the transporter(s)
- Certification that the contents meet all government regulations for transport by highways.
4.B.2. The waste generator is responsible for ensuring that a copy of the WSR is delivered to the disposal site along with the waste shipment. If a copy of the WSR signed by the disposal site operator is not returned to the waste generator within 35 days, the waste generator must contact the transporter and/or the disposal site to determine the status of the waste shipment. 40 CFR 61.150(d)(3). If the signed WSR is not received within 45 days, the waste generator must report, in writing, to the responsible NESHAP program agency and send along a copy of the WSR. 40 CFR 61.150(d)(4). Copies of WSRs, including those signed by the disposal site operator, must be retained for at least 2 years. 40 CFR 61.150(d)(5).

V. Training

5.1. For those roof removals that are subject to the NESHAP, at least one on-site supervisor trained in the provisions of the NESHAP must be present during the removal of the asbestos roofing material. 40 CFR 61.145(c)(8). In EPA's view, this person can be a job foreman, a hired consultant, or someone who can represent the building owner or contractor responsible for the removal. In addition to the initial training requirement, a refresher training course is required every 2 years. The NESHAP training requirements became effective on November 20, 1991.

5.2. Asbestos training courses developed specifically to address compliance with the NESHAP in roofing work, as well as courses developed for other purposes can satisfy this requirement of the NESHAP, as long as the course covers the areas specified in the regulation. EPA believes that Asbestos Hazard Emergency Response Act (AHERA) training courses will, for example, satisfy the NESHAP training requirements. However, nothing in this interpretive rule or in the NESHAP shall be deemed to require that roofing contractors or roofing workers performing operations covered by the NESHAP must be trained or accredited under AHERA, as amended by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA). Likewise, state or local authorities may independently impose additional training, licensing, or accreditation requirements on roofing contractors performing operations covered by the NESHAP, but such additional training, licensing or accreditation is not called for by this interpretive rule or the federal NESHAP.

5.3. For removal of Category I asbestos containing roofing material where RB roof cutters or equipment that similarly damages the asbestos-containing roofing material are used, the NESHAP training requirements (§61.145(c)(8)) apply as discussed in Section I above. It is EPA's intention that removal of Category I asbestos-containing roofing material using hatchets, axes, knives, and/or the use of spud bars, pry bars and shovels to lift the roofing material, or similar removal methods that slice, punch, or shear the roof membrane are not subject to the training requirements, since these methods do not cause the roof removal to be subject to the NESHAP. Likewise, it is EPA's intention that roof removal operations involving Category II nonfriable ACM are not subject to the training requirements where such operations are not subject to the NESHAP as discussed in Section I above.

[59 FR 31158, June 17, 1994, as amended at 60 FR 31920, June 19, 1995]

Subpart N—National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants

SOURCE: 51 FR 28025, Aug. 4, 1986, unless otherwise noted.

§61.160 Applicability and designation of source.

(a) The source to which this subpart applies is each glass melting furnace that uses commercial arsenic as a raw material. This subpart does not apply to pot furnaces.

(b) Rebricking is not considered construction or modification for the purposes of §61.05(a).

§61.161 Definitions.

The terms used in this subpart are defined in the Clean Air Act, in §61.02, or in this section as follows:

Arsenic-containing glass type means any glass that is distinguished from other glass solely by the weight percent of arsenic added as a raw material and by the weight percent of arsenic in the glass produced. Any two or more glasses that have the same weight percent of arsenic in the raw materials as well as in the glass produced shall be considered to belong to one arsenic-containing glass type, without regard to the recipe used or any other characteristics of the glass or the method of production.

By-pass the control device means to operate the glass melting furnace without operating the control device to which that furnace's emissions are directed routinely.

Commercial arsenic means any form of arsenic that is produced by extraction.