

## **SUBPART M - NATIONAL EMISSION STANDARDS FOR ASBESTOS**

(EPA Delegation Effective 7/18/89; Adopted and Effective 2/1/95)

### **RULE 361.140. APPLICABILITY**

The provisions of this subpart are applicable to those sources specified in Rules 361.142 through 361.151, 361.154 and 361.155.

### **RULE 361.141 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 Regulation.

- (a) **"Active Waste Disposal Site"** means any disposal site, other than an inactive site.
- (b) **"Adequately Wet"** means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from regulated 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.
- (c) **"Asbestos"** means the asbestos-form varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite.
- (d) **"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.
- (e) **"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.
- (f) **"Asbestos Tailings"** means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.
- (g) **"Asbestos Waste from Control Devices"** means any waste material that contains asbestos and is collected by a pollution control device.
- (h) **"Category I Nonfriable Asbestos-Containing Material"** means asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing

more than one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy.

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

(j) **"Competent Person"** means a person who is a foreman, manager, supervisor, or other authorized representative who has successfully completed the training requirements of Rule 361.145, Subsection (d)(8).

(k) **"Commercial Asbestos"** means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

(l) **"Cutting"** means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

(m) **"Demolition"** means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any such structure or facility.

(n) **"Emergency Demolition"** means any demolition under order of a federal, state or local governmental agency when such an order is issued for a structurally unsound facility in danger of imminent collapse.

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

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

(q) **"Facility"** means any institutional, commercial, public, industrial or residential structure, installation, or building ( including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of this definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

(r) **"Facility Component"** means any part of a facility including equipment.

(s) **"Friable Asbestos Material"** means any material containing more than one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763 Section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), then the asbestos content shall be verified by point counting using PLM.

(t) **"Fugitive Source"** means any source of emissions not controlled by an air pollution control device.

(u) **"Glove Bag"** means a sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Information of glove bag installation and work practice requirements 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).

(v) **"Grinding"** means to reduce to powder or small fragments and includes mechanical chipping or drilling.

(w) **"High Efficiency Particulate Air (HEPA) Filter"** is a filter capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers in diameter or larger.

(x) **"In Poor Condition"** means the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.

(y) **"Inactive Waste Disposal Site"** means any disposal site or portion of the disposal site where additional asbestos-containing waste material has not been deposited within the past year.

(z) **"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).

(aa) **"Leak-tight"** means that solids or liquids cannot escape or spill out. It also means dust-tight.

(bb) **"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.

(cc) **"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. The use of asbestos diaphragms in chlorine production is considered a part of manufacturing.

(dd) **"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.

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

(ff) **"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.

(gg) **"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.

(hh) **"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.

(ii) **"Particulate Asbestos Material"** means finely divided particles of asbestos or material containing asbestos.

(jj) **"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.

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

(ll) **"Remove"** means to take out RACM or facility components that contain or are covered with RACM from any facility.

(mm) **"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.

(nn) **"Resilient Floor Covering"** means asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than one percent asbestos as

determined using polarized light microscopy according to the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy.

(oo) **"Roadways"** means surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

(pp) **"Strip"** means to take off RACM from any part of a facility or facility components.

(qq) **"Structural Member"** means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

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

(ss) **"Waste Generator"** means any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.

(tt) **"Waste Shipment Record"** means the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

(uu) **"Working Day"** means Monday through Friday including holidays that fall on any of the days Monday through Friday.

#### **RULE 361.142 STANDARD FOR ASBESTOS MILLS**

(a) Each owner or operator of an asbestos mill shall either discharge no visible emissions to the outside air from that asbestos mill, including fugitive sources, or use the methods specified by Rule 361.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(b) Each owner or operator of an asbestos mill shall meet the following requirements:

(1) Monitor each potential source of asbestos emissions from any part of the mill facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, 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.

(2) Inspect each air cleaning device at least once each week for proper operation and for changes that signal the potential for malfunction, 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 Control Officer, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

- (i) Maintenance schedule.

- (ii) Recordkeeping plan.

(3) Maintain records of the results of visible emissions 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.

(4) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Control Officer, all records required under this rule.

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

(6) Submit quarterly a copy of visible emission monitoring records to the Control Officer if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

**FIGURE 1. Record of Visible Emission Monitoring**

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

**FIGURE 2. Air Cleaning Device Inspection Checklist**

1. Air cleaning device designation or number	
2. Date of inspection	
3. Time of inspection	
4. Is air cleaning device operating properly (yes/no)	
5. Tears, holes, or abrasions in fabric filter (yes/no)	
6. Dust on clean side of fabric filters (yes/no)	
7. Other signs of malfunctions or potential malfunctions (yes/no)	
8. Describe other malfunctions or signs of potential malfunctions.	
9. Describe corrective action(s) taken.	
10. Date and time corrective action taken.	
11. Inspected by:	
(Print/Type Name)	(Title)
(Signature)	(Date)
(Print/Type Name)	(Title)

(Signature)

(Date)

### **RULE 361.143. 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.

### **RULE 361.144. STANDARD FOR MANUFACTURING**

#### **(a) APPLICABILITY**

This rule 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**

(1) Each owner or operator of any of the manufacturing operations to which this rule applies shall either:

(i) 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

(ii) Use the methods specified by Rule 361.152 to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the outside air.

(2) Each owner or operator of any of the manufacturing operations to which this section applies shall:

(i) 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.

(ii) 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 Control Officer, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(A) Maintenance schedule.

(B) Recordkeeping plan.

(iii) 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:

(A) Date and time of each inspection.

(B) Presence or absence of visible emissions.

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

- (D) Presence of dust deposits on clean side of fabric filters.
- (E) Brief description of corrective actions taken, including date and time.
- (F) Daily hours of operation for each air cleaning device.
- (iv) Furnish upon request, and make available at the affected facility during normal business hours for inspection by the Control Officer, all records required under this rule.
- (v) Retain a copy of all monitoring and inspection records for at least two years.
- (vi) Submit quarterly a copy of the visible emission monitoring records to the Control Officer if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

## **RULE 361.145 STANDARD FOR DEMOLITION AND RENOVATION**

### **(a) APPLICABILITY**

Except as provided in Section (b) below, this rule applies to demolition and renovation operations involving the presence of regulated asbestos-containing material (RACM).

### **(b) EXEMPTIONS**

(1) Renovation of a facility in which the combined amount of RACM to be removed or stripped or similarly disturbed measures (or will measure during a calendar year, for planned renovations) less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and less than 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously, is exempt from the requirements of this rule.

(2) Emergency demolition operations, that are subject to an order of the federal, state or local government agency that describes the facility as structurally unsound and in danger of imminent collapse, are exempt from the notification requirements of Subsections (c)(1) and (c)(2) and the work practice procedures of Subsections (d)(1) through (d)(3).

(3) Demolition of a facility in which the combined amount of RACM measures less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, and less than 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously or there

is no asbestos, is exempt from the requirements of Subsections (c)(1)(v), (c)(2)(viii) and (c)(2)(xvii), and of Section (d).

(4) Owners or operators of demolition and renovation operations are exempt from the requirements of Rules 361.05(a), 361.07, and 361.09 of NESHAPS Subpart A-General Provisions.

**(c) NOTIFICATION REQUIREMENTS**

(1) Except as provided in Section (b) above, each owner or operator of a demolition or renovation activity to which this rule applies shall provide, using a form similar to that shown in Figure 3, notification as follows:

(i) Provide the Control Officer with written notice of intention to demolish or renovate and associated fees pursuant to District Rule 40. Delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable.

(ii) Postmark or deliver the notice at least ten 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).

(iii) Provide the Control Officer with a new notice whenever there is a change in the starting date for stripping or removal work or whenever the amount of asbestos affected changes by at least 20 percent. If the asbestos stripping or removal or demolition will begin after the original start date, notify the Control Officer of the new start date by telephone as soon as possible before the original start date, and provide the Control Officer with a new written notice of the new start date as soon as possible, but no later than, the original start date. If stripping or removal or demolition will begin earlier than the original start date, provide the Control Officer with a written notice at least 10 working days before the stripping or removal or demolition will begin. The associated fees required by District Rule 40 shall accompany the new notice.

(iv) For planned renovation operations involving individual nonscheduled operations, predict, and include in the notification, the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31. Provide the District notice in accordance with Subsections c(1)(i), (ii) and (iii) above at least 10 working days before the end of the calendar year.

(v) For an emergency renovation or emergency demolition operation, the owner or operator shall postmark or deliver the information required in Subsections (c)(1)(i) and (c)(2) (except (c)(2)(viii) for emergency demolitions), in writing, to the District's Compliance Division as soon as possible before, but not later than, the following working day. Associated fees required by District Rule 40 shall be submitted with the information required by this section.

(2) The written notifications required in this section shall be submitted with the associated fees required by District Rule 40. Except as provided above, the following shall be included in the written notifications required by this section:

(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, area, 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 Asbestos-Containing Material.

(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) and from other facility components in terms of surface area in square meters (square feet) or volume in cubic meters (cubic feet). Also, estimate the approximate amount of Category I and Category II nonfriable Asbestos-Containing Material in the affected part of the facility that will not be removed before demolition.

Figure 3

Figure 3 - continued

(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 Subsection (c)(1)(iv) of this rule.

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

(x) Description of planned demolition or renovation work to be performed 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 Subsection (d)(8) of this rule will supervise the stripping and removal described by this notification.

(xiv) For emergency demolition operations, the name, title, and authority of the federal, 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 renovation operations, 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 Asbestos-Containing Material becomes crumbled, pulverized, or reduced to powder.

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

**(d) PROCEDURES FOR ASBESTOS EMISSION CONTROL**

Each owner or operator of a demolition or renovation activity to which this rule applies, shall:

(1) Remove all RACM from the 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) The RACM is Category I nonfriable Asbestos-Containing Material that is not in poor condition and is not friable, or

(ii) The RACM 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) The RACM 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, or

(iv) The RACM is Category II nonfriable Asbestos-Containing Material 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 section 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 Rule 361.152.

(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 Subsection (d)(3)(i) of this rule 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 Subsection (d)(3)(i) of this rule.

(iii) A copy of the Administrator's written approval shall be kept at the work-site 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 Subsection (d)(2) of this rule, it shall be stripped or contained in leak-tight wrapping, except as described in Subsection (d)(5) of this rule. If stripped, the owner or operator shall either:

(i) Adequately wet the RACM during stripping; or

(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 Rule 361.152.

(5) For large facility components such as reactor vessels, large tanks, and steam generators, but not beams (which must be handled in accordance with Subsections (d)(2), (3), and (4) of this rule), the RACM is not required to be stripped if all of 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 Rule 361.149(d)(1)(i), (ii), and (iii) during loading and unloading operations and during storage.

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

(i) Adequately wet the material and ensure that it remains wet until collected and contained or treated in preparation for disposal in accordance with Rule 361.150 (the RACM contained in leak-tight wrapping that has been removed in accordance with Subsections (d)(4) and (d)(3)(i)(B)(3) of this rule need not be wetted), and

(ii) Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material; or if the RACM has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections, transport the material to the ground via leak-tight chutes or containers.

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

(i) The owner or operator need not comply with Subsection (d)(2)(i) and the wetting provisions of Subsection (d)(3) of this rule.

(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 Control Officer during normal business hours at the demolition or renovation site. The owner or operator shall retain the temperature records for at least two years.

(8) No RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this rule unless at least one onsite representative, trained as a Competent Person, is present. The training required to qualify as a Competent Person shall include, as a minimum, training in the following categories:

(i) Applicability of this rule,

(ii) Notification requirements,

(iii) Material identification techniques,

(iv) Control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters,

(v) Waste disposal work practices,

- (vi) Reporting and recordkeeping, and
- (vii) Asbestos hazards and worker protection.

To remain qualified as a Competent Person, the trained representative shall receive refresher training at least once every two years in the categories listed above.

Evidence that the required training has been completed shall be posted and made available for inspection by the Control Officer at the demolition or renovation site.

(9) For emergency demolitions, 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 Asbestos-Containing Material must be removed in accordance with this subpart before burning.

#### **RULE 361.146. 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 one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, except as provided in Section (c) of this rule.

(b) For spray-on application of materials that contain more than one percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in Section (c) of this rule:

(1) Notify the Control Officer at least 20 days before beginning the spraying operation. Include the following information in the notice:

- (i) Name and address of owner or operator;
- (ii) Location of spraying operation; and
- (iii) Procedures to be followed to meet the requirements of this rule.

(2) Discharge no visible emissions to the outside air from the spray-on application of the asbestos-containing material or use the methods specified by Rule 361.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of Sections (a) and (b) of this rule 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 rule are exempt from the requirements of Rules 361.05(a), 361.07, and 361.09.

## **RULE 361.147. STANDARD FOR FABRICATING**

### **(a) APPLICABILITY**

This rule 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) STANDARDS**

Each owner or operator of any of the fabricating operations to which this rule 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 Rule 361.152 to clean emissions 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 fabricating facility, including air cleaning devices, process equipment, and buildings that house equipment for material processing and handling, 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 Control Officer, 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 Control Officer, all records required under this rule.

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

(8) Submit quarterly a copy of the visible emission monitoring records to the Control Officer if visible emissions occurred during the report period. Quarterly reports shall be postmarked by the 30th day following the end of the calendar quarter.

#### **RULE 361.148. 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 rule do not apply to spray-applied insulating materials regulated under Rule 361.146.

#### **RULE 361.149. STANDARD FOR WASTE DISPOSAL FOR ASBESTOS MILLS**

Each owner or operator of any source covered under the provisions of Rule 361.142 shall:

(a) Deposit all asbestos-containing waste material at waste disposal sites operated in accordance with the provisions of Rule 361.154; 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 Rule 361.152 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 Rule 361.150(a) or Section (c) of this rule; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, or onsite transporting of any asbestos-containing waste material, or use one of the disposal methods specified in Subsections (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 Rule 361.152 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  $-9.5^{\circ}\text{C}$  ( $15^{\circ}\text{F}$ ), as determined by an appropriate measurement method with an accuracy of  $\pm 1^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{F}$ ). 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 two 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:

(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 x 36 cm (20 in x 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  
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 at least equal to the height of the upper of the two lines.

(2) For offsite disposal, provide a copy of the waste shipment record, described in Subsection (e)(1) of this rule, 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 **Environmental Protection Agency (EPA)** Regional agency responsible for administering the asbestos NESHAPS 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 NESHAPS 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 two years.

(f) Furnish upon request, and make available for inspection by the Control Officer, all records required under this rule.



Figure 4

Figure 4 - continued

Figure 4 - continued

**RULE 361.150. STANDARD FOR WASTE DISPOSAL FOR  
MANUFACTURING, FABRICATING, DEMOLITION,  
RENOVATION, AND SPRAYING OPERATIONS**

Each owner or operator of any source covered under the provisions of Rules 361.144 - 361.147 shall:

(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 following emission control and waste treatment methods:

(1) The owner or operator shall adequately wet asbestos containing material as follows:

(i) Mix asbestos waste from control devices to form a slurry; adequately wet other asbestos-containing waste material; and

(ii) Discharge no visible emissions to the outside air from collection, mixing, and wetting, and handling operations, or use the methods specified by Rule 361.152 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 Subsection (a)(1)(iii) of this rule 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; and

(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) The owner or operator shall process asbestos-containing waste material into nonfriable forms as follows:

(i) Form all asbestos-containing waste material into nonfriable pellets or other shapes; and

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, and use the methods specified by Rule 361.152 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 demolition according to Rule 361.145(d)(1)(i), (ii), (iii), and (iv) or for facilities demolished according to Rule 361.145(d)(9), the owner or operator shall adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials covered by this subsection do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

(4) The owner or operator may use an alternative emission control and waste treatment method that has received prior approval by the Administrator according to the procedure described in Rule 361.149(c)(2).

(5) As applied to demolition and renovation, the requirements of Section (a) of this rule do not apply to Category I nonfriable Asbestos-Containing Material waste and Category II nonfriable Asbestos-Containing Material waste that did not become crumbled, pulverized, or reduced to powder.

(b) All asbestos-containing waste material 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 Rule 361.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of Rule 361.155.

(3) The requirements of Section (b) of this rule do not apply to Category I nonfriable Asbestos-Containing Material 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 requirements of Rule 361.149(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 information:

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

(ii) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAPS 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 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) Provide a copy of the waste shipment record, described in Subsection (d)(1) of this rule, 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 initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.
- (4) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAPS program of the waste generator if a copy of the waste shipment record, signed by the owner or operator for 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.
- (5) 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 two years.
- (e) Furnish upon request, and make available for inspection by the Control Officer all records required under this rule.

**RULE 361.151. 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 Rules 361.142, 361.144, or 361.147 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 rule; or

(2) Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing 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 Subsections (a)(1), (2), and (3) of this rule. 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 Control Officer to use other equally effective dust suppression agents. For purposes of this rule, 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 Subsection (a)(2) or (a)(3) of this rule.

(1) Display warning signs at all entrances and at intervals of 100 m (330 feet) 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 x 36 cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this rule; and

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

<b>Legend</b>	<b>Notation</b>
Asbestos Waste Disposal Station	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust . . . . .	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper 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 to determine whether a fence or a natural barrier adequately deters access by the general public.

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

(d) Notify the Control Officer 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 under this rule, and follow the procedures specified in the notification. 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 Control Officer at least ten 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.

(e) Within 60 days of a site becoming inactive and after the effective date of this subpart, record, in accordance with State law, a notation on the deed to the facility property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used for the disposal of asbestos-containing waste material;

(2) The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in Rule 361.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR Part 61, Subpart M.

#### **RULE 361.152. AIR-CLEANING**

(a) The owner or operator of a demolition or renovation activity who uses air-cleaning, as specified in this NESHAPS (Subpart M) shall:

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

(i) Ensuring that the airflow permeability, as determined by ASTM Method D737-75, does not exceed  $9 \text{ m}^3/\text{min}/\text{m}^2$  ( $30 \text{ ft}^3/\text{min}/\text{ft}^2$ ) for woven fabrics or  $11 \text{ m}^3/\text{min}/\text{m}^2$  ( $35 \text{ ft}^3/\text{min}/\text{ft}^2$ ) for felted fabrics, except that 12

$\text{m}^3/\text{min}/\text{m}^2$  ( $40 \text{ ft}^3/\text{min}/\text{ft}^2$ ) for woven and  $14 \text{ m}^3/\text{min}/\text{m}^2$  ( $45 \text{ ft}^3/\text{min}/\text{ft}^2$ ) for felted fabrics 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 rule. 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) The following are exceptions to Subsection (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).

(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 Subsections (a)(1), and (b)(1) and (2) of this rule if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

### **RULE 361.153. REPORTING**

(a) Any new source to which this subpart applies (with the exception of sources subject to Rules 361.143, 361.145, 361.146, and 361.148), which has an initial startup date preceding the effective date of this revision, shall provide the following information to the Control Officer 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 Control Officer within 90 days of the effective date of this subpart unless the owner or operator of the existing source has previously provided this information to the Control

Officer. Any changes in the information provided by any existing source shall be provided to the Control Officer, postmarked or delivered, within 30 days after the change.

- (1) A description of the emission control equipment used for each process; and
- (2) If a fabric filter device is used to control emissions:
  - (i) The airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$  ( $\text{ft}^3/\text{min}/\text{ft}^2$ ) if the fabric filter device uses a woven fabric, 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  $\text{g}/\text{m}^2$  ( $\text{oz}/\text{yd}^2$ ), the minimum thickness in millimeters (inches), and the airflow permeability in  $\text{m}^3/\text{min}/\text{m}^2$  ( $\text{ft}^3/\text{min}/\text{ft}^2$ ).
- (3) If a HEPA filter is used to control emissions, the certified efficiency.
- (4) For sources subject to Rules 361.149 and 361.150:
  - (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  $\text{m}^3/\text{day}$  ( $\text{yd}^3/\text{day}$ ); 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 Rules 361.151 and 361.154:
  - (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 Section (a) of this rule must accompany the information required by Rule 361.10. Active waste disposal sites subject to Rule 361.154 shall also comply with this provision. Roadways, demolition and renovation, spraying, and insulating materials are exempted from the requirements of Rule 361.10(a). The information described in this rule must be reported using the format of Appendix A of 40 CFR Part 61 as a guide.

**RULE 361.154. 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 Rules 361.149, 361.150, or 361.155 shall meet the requirements of this rule.

(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 Sections (c) or (d) of this rule 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 Subsection (c)(1) of this rule 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 for 51 cm x 36 cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this rule; and

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

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

Spacing between any two lines must be at least equal to the height of the upper 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 Control Officer 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 Section (a) of this rule, 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 Control Officer. For purposes of this section, any used, spent, or other waste oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of Section (a) of this rule, use an alternative emissions control method that has received prior written approval by the Administrator according to the procedures described in Rule 361.149(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 NESHAPS 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 NESHAPS 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.

(v) The date of the receipt.

(2) As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator.

(3) Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAPS 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 NESHAPS program for the disposal site. Describe the discrepancy and attempts to reconcile it, and submit a copy of the waste shipment record along with the report.

(4) Retain a copy of all records and reports required by this section for at least two years.

(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 Rule 361.151.

(h) Submit to the Control Officer, 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 Control Officer, all records required under this rule.

(j) Notify the Control Officer 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 Control Officer at least ten 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 Control Officer may require changes in the emission control procedures to be used.

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

**RULE 361.155. 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 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 Rule 361.07.
- (2) In addition to the information requirements of Rule 361.07(b)(3), a
  - (i) Description of waste feed handling and temporary storage.
  - (ii) Description of process operating conditions.
  - (iii) Description of the handling and temporary storage of the end product.
  - (iv) Description of the protocol to be followed when analyzing output materials by transmission electron microscopy.
- (3) Performance test protocol, including provisions for obtaining information required under Section (b) of this rule.
- (4) The Administrator may require that a demonstration of the process be performed prior to approval for the application to construct.

(b) Conduct a startup 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 insulation, 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 eight-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 startup performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during startup performance tests in Subsection (b)(1) of this rule.

(3) Collect and analyze samples, taken as ten-day composite samples (one 200-gram [7-ounce] sample collected every eight hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than ten 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 onsite until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to Rule 361.150.

(d) After the initial 90 days of operation:

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

(i) Disposed of as asbestos-containing waste material according to Rule 361.150, or

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

(iii) Stored temporarily onsite 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 eight 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 Rule 361.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(f) Maintain records onsite and include the following information:

(1) Results of startup 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 Rule 361.155(c);

(3) Results of the monthly composite analyses required under Rule 361.155(d);

(4) Results of continuous monitoring and logs of process operating parameters required under Rule 361.155(c) and (d);

(5) The information on waste shipments received as required in Rule 361.154(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; and

(7) Retain records required by Section (f) of this rule for at least two 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 onsite until analyzed for asbestos content; and

(iv) The information on waste disposal activities as required in Rule 361.154(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 startup 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 Rules 361.150 and 361.154 or reprocessed while all of the established operating parameters are being met.

## **RULE 361.156. 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 Rules 361.142 through 361.151, 361.154, and 361.155 of this subpart. These cross-references are presented for the reader's information and to promote compliance with the cited regulations.

**TABLE 1. - CROSS REFERENCE TO OTHER ASBESTOS REGULATIONS**

Agency	CFR Citation	Comment
EPA	40 CFR 763, Subpart E, F	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.
	40 CFR 427	Effluent standards for asbestos manufacturing source categories.
	40 CFR 763, Subpart G	Protects public employees performing asbestos abatement work in States not covered by OSHA asbestos standard.
OSHA	29 CFR 1910.1001	Worker protection measures--engineering controls, worker training, labeling, respiratory protection, bagging of waste, 0.2 f/cc permissible exposure level.
	29 CFR 1926.58	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.
MSHA	30 CFR 56, Subpart D	Specifies exposures limits, engineering controls, and respiratory protection measures for workers in surface mines.
	30 CFR 57, Subpart D	Specifies exposure limits, engineering controls, and respiratory protection measures for workers in underground mines.
DOT	49 CFR 171 and 172	Regulates the transportation of asbestos-containing waste material. Requires waste containment and shipping papers.

## NOTIFICATION OF DEMOLITION AND RENOVATION

Operator Project #	Postmark	Date Received	Notification #	
1. <b>Type of notification</b> (O=Original R=Revised C=Cancelled):				
2. <b>Facility information</b> (Identify owner, removal contractor, and other operator)				
<b>Owner name:</b>				
Address:				
City:	State:	Zip:		
Contact	Telephone #:			
<b>Removal contractor:</b>				
Address:				
City:	State:	Zip:		
Contact	Telephone #:			
<b>Other operator:</b>				
Address:				
City:	State:	Zip:		
Contact	Telephone #:			
3. <b>Type of operation</b> (D=Demo O=Ordered Demo R=Renovation E=Emer. Renovation):				
4. <b>Is asbestos present?</b> (yes/no)				
5. <b>Facility Description</b> (Include building name, number and floor or room number)				
Bldg. Name:				
Address:				
City:	State:	Zip:		
Site Location:				
Building Size:	# of Floors:	Age in Years:		
Present Use:		Prior Use:		
6. <b>Procedure, including analytical method, if appropriate, used to detect the presence of asbestos material:</b>				
7. <b>Approximate amount of asbestos material:</b> a. Regulated ACM to be removed b. Category I ACM not removed c. Category II ACM not removed	RACM to be removed	Nonfriable Asbestos Material not to be removed		Indicate Unit of Measurement Below
		Cat I	Cat II	Unit
Pipes				LnFt:      Ln m:
Surface Area				SqFt:      Sq m:
Vol RACM off Facility Component				CuFt:      Cu m:
8. <b>Scheduled dates asbestos removal</b> (mm/dd/yy) Start:		Complete:		
9. <b>Scheduled dates demo/renovation</b> (mm/dd/yy) Start:		Complete:		

**FIGURE 3**  
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## NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

<b>10. Description of planned demolition or renovation work, and method(s) to be used:</b>		
<b>11. Description of work practices &amp; engineering controls to be used to prevent emissions of asbestos at the demolition and renovation site:</b>		
<b>12. Waste Transporter #1</b>		
Name:		
Address:		
City:	State:	Zip:
Contact Person:	Telephone #:	
<b>Waste Transporter #2:</b>		
Name:		
Address:		
City:	State:	Zip:
Contact Person	Telephone #:	
<b>13. Waste Disposal Site</b>		
Name:		
Location:		
City:	State:	Zip:
Contact	Telephone #:	
<b>14. If demolition ordered by a government agency, please identify the agency below:</b>		
Name	Title:	
Authority:		
Date of Order (mm/dd/yy):	Date Ordered to Begin (mm/dd/yy):	
<b>15. For Emergency Renovations</b>		
Date and Hour of Emergency (mm/dd/yy):		
Description of the Sudden, Unexpected Event:		
Explanation of how the event caused unsafe conditions, or would cause equipment damage or an unreasonable financial burden:		
<b>16. Description of procedures to be followed in the event that unexpected asbestos is found or previously nonfriable asbestos material becomes crumbled, pulverized, or reduced to powder.</b>		
<b>17. I certify that an individual trained in the provisions of this regulation (40 CFR Part 61, Subpart M) will be onsite during the demolition or renovation &amp; evidence that the required training has been accomplished by this person will be available for inspection during normal business hours.</b>		
_____		_____
(Signature of Owner/Operator)		(Date)
<b>18. I certify that the above information is correct:</b>		
_____		_____
(Signature of Owner/Operator)		(Date)

**FIGURE 3**  
M-X-13

## WASTE SHIPMENT RECORD

### GENERATOR

1. Work site name and mailing address:	Owner's Name	Owner's Phone #
2. Operator's name and address		Operator's Phone #
3. Waste disposal site (WDS) name, mailing address, and physical site location:		WDS Phone #
4. Name and address of responsible agency:		
5. Description of materials:	6. Containers #            Type	7. Total quantity m <sup>3</sup> (yd <sup>3</sup> )
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.		
Print/type name & title	Signature	Month   Day   Year

### TRANSPORTER

10. Transporter #1 (Acknowledgement of receipt of materials)			
Print/type name & title	Signature	Month   Day   Year	
Address	City	State	Zip      Telephone #

**FIGURE 4**  
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**WASTE SHIPMENT RECORD - Continued**

11. Transporter #2 (Acknowledgement of receipt of materials)			
Print/type name & title	Signature	Month	Day Year
Address	City	State	Zip Telephone #

**DISPOSAL SITE**

12. Discrepancy indication space		
13. Waste disposal site owner or operator:		Certification of receipt of asbestos materials covered by this manifest except as noted in Item 12.
Print/type name & title	Signature	Month Day Year

## WASTE SHIPMENT RECORD - Continued

### 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 "onsite" 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

## WASTE SHIPMENT RECORD - Continued

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.

### **TRANSPORTER SECTION** (Items 10 & 11)

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

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

### **DISPOSAL SITE SECTION** (Items 12 & 13)

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

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