

Managing Demolitions & Renovations in Compliance with the Asbestos NESHAP Standard
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Managing Demolitions & Renovations

**in compliance with the
Asbestos NESHAP Standard
40 CFR 61.140 (Subpart M)**

June, 1995

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1. Applicability

Since the early 1970s, asbestos has been regulated as a hazardous air pollutant under the Clean Air Act. U.S. EPA has established National Emissions Standards of Hazardous Air Pollutants, or NESHAP for asbestos. This standard has been revised several times since its first promulgation in 1973. EPA published the latest revision 20 November 1990, which became effective on that date. This document is a guide to the current asbestos NESHAP requirements (cross-reference 40 CFR 61).

The asbestos NESHAP demolition/renovation regulations apply to you depending on the nature of your demolition or renovation and the quantity and type of asbestos-containing material involved. Please note that even if the NESHAP does not apply to you, asbestos is covered by other regulations or laws that may affect you. For example, final OSHA asbestos rules were due to be promulgated in August 1995. The OSHA regulations should be incorporated as applicable into your asbestos management program when promulgation occurs. Contact Karen Krall for additional information.

Agency	Law or Regulation	Designation	Scope
EPA	CERCLA	hazardous substance	Releases of a reportable quantity of asbestos into the environment
OSHA	29 CFR 1910.1001 29 CFR 1926.58	hazardous chemical	Worker protection standards
DOT	49 CFR 171 and 172	hazardous material	Transportation of asbestos-containing materials.

In addition, many state and local authorities have adopted regulations covering asbestos.

Demolition vs. Renovation¹

Whether your activity is defined as a "demolition" or "renovation" is important to determine what NESHAP requirements apply to you.

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

Renovation is defined as "altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component."

The difference between demolition and renovation is how load-bearing structures are affected. If the activity involves wrecking or removing a load-bearing structure, that activity is considered demolition.

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Material Identification/Classificationⁱⁱ

Asbestos-containing material (ACM) covered by the asbestos NESHAP is designated Regulated Asbestos-containing Material (RACM).

1. Friable asbestos material:
 - a. contains more than 1 percent asbestos, *and*
 - b. when dry, can be crumbled, pulverized, or reduced to powder by hand pressure
2. Category I non-friable ACM:
 - a. contains more than 1 percent asbestos, *and*
 - b. are packages, gaskets, resilient floor coverings, and roofing products
3. Category II non-friable ACM:
 - a. contains more than 1 percent asbestos, *and*
 - b. is not Category I non-friable ACM, *and*
 - c. when dry, cannot be crumbled, pulverized, or reduced to a powder by hand pressure.

The analytical procedure for determining percent asbestos is contained in 40 CFR Part 763 Section 1, Polarized Light Microscopy.

Given those definitions, Regulated Asbestos-containing Material (RACM) is defined as:

1. Friable asbestos material,
2. Category I non-friable ACM which has become friable or will be or has been subjected to sanding, grinding, cutting, or abrading,
3. Category II non-friable ACM which has become or has a high probability of being crumbled, pulverized, or reduced to powder during the demolition or renovation.

Asbestos Surveyⁱⁱⁱ

Prior to *any* demolition or renovation, you are required to do an asbestos survey. The survey should determine the presence, type (friable, Category I or II), and the quantity of asbestos involved in the demolition or renovation. The findings of the survey should be documented, including determinations that no asbestos is involved.

NESHAP Requirements

What NESHAP regulations apply depends: (1) whether the operation is a demolition or renovation, and (2) quantity of RACM involved.

The threshold quantity of RACM is:

- 260 linear feet (for pipe), or
- 160 square feet, or
- 35 cubic feet.

Renovations below the threshold are not further regulated.^{iv}

Demolitions below the threshold are subject only to notification requirements.^v

Demolitions and renovations above the threshold are subject to:^{vi}

- §61.145(b) Notification
- §61.145(c) Asbestos removal requirements
- §61.145(c)(8) NESHAP training
- §61.150 Waste disposal

2. Notification

Who Must File

Before you perform any demolition (even if no RACM is involved) you must file a notification form. Also, any renovation which involves RACM above the threshold quantities requires filing a form. The form is mailed or delivered to the agency which administers the NESHAP program in your state. A blank form is on pages 21-22.

When to File

A completed form must be postmarked or delivered to the administering agency:^{vii}

- For demolitions below the threshold: 10 working days before demolition begins.
- For demolitions and renovations above the threshold: 10 working days before the asbestos removal work begins.

Revised Notification

If the start date changes, renotification is necessary. If the new start date is later than the original date, you must notify the agency as soon as possible by telephone of the new start date. Then follow up with a revised notification form: for demolitions below the threshold, 10 working days before demolition begins; for demolitions and renovations above the threshold, 10 working days before the asbestos removal work begins.^{viii}

A revised notification form must be submitted when the actual quantity of RACM exceeds 20 percent of the estimated quantities in the original notification.^{ix}

3. Asbestos Removal Standards

Remove RACM Prior to Demolition/Renovation

The regulation generally requires removal of all RACM prior to demolition or renovation. There are four exceptions:^x

1. Category I non-friable ACM in good condition;
2. Material on a facility component encased in concrete or other hard material;
3. Material not available for testing and discovered during the work;
4. Category II non-friable material and low probability it will become crumbled, pulverized, or reduced to powder during the work.

Removal of RACM is done by stripping the RACM in place, or removing the facility component which contains the RACM, either in sections or as one piece. Large facility components (such as tanks, boilers) may be handled by either stripping in place, or removing the entire component if it can be moved without disturbing the RACM.^{xi}

Keep it Wet

All exposed RACM must be "adequately wet" during removal operations, from the time you begin to disturb it until it is containerized or wrapped.^{xii} This includes stripping operations as well as removing facility components in sections.

There are a few exceptions to this:

1. If you are doing a renovation and are stripping RACM in place, you may use an alternate method of emission control if using water would either present a safety problem or damage equipment. You must obtain written approval from EPA.^{xiii}
2. If you remove a facility component from the facility to strip it, you may use exhaust ventilation during the stripping rather than wetting. When exhaust ventilation is used, the system must emit no visible emissions and must be designed and operated according to §61.152, Air Cleaning.^{xiv}
3. You may suspend wetting when ambient temperature at point of wetting is below 32 degrees F. If you suspend wetting, you must, to maximum extent possible, remove facility components as units or in sections rather than strip in place. Also, you must record ambient temperature in the work area at the beginning, middle, and end of each workday and maintain records for two years.^{xv}

4. Once RACM has been wrapped in leak-tight wrapping or placed in a container, it no longer needs to be kept wet.^{xvi}

Moving RACM Within the Work Area^{xvii}

The intent of the regulations is to minimize generation of dust from the RACM. In moving RACM within the work area, the regulation says this: "Carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material." When removing RACM material which is more than 50 feet above the ground, the material must be transported to ground level either by leak-tight chutes or by first placing the material in containers and then lowering the filled containers to the ground.

Personnel Training^{xviii}

After 20 November 1991, at least one person must be present during the renovation or demolition who has been trained in the provisions of the NESHAP regulations and how to comply with them. The trained person must receive refresher training every two years. The training must be documented and posted at the demolition/renovation site.

4. Waste Management, Transportation & Disposal

Containment^{xix}

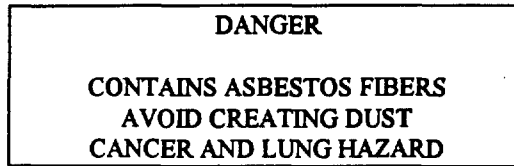
The general rule for asbestos handling, removal, collection, packaging is this: no visible emissions to the outside air. All RACM waste should be wetted, then placed into leak-tight containers. For materials too big to fit into a container, the material should be wrapped in 6-mil plastic to form a leak-tight container.

Storage^{xx}

Once RACM has been properly contained there is no explicit time limit for storage. The regulation simply states that the waste should be disposed of "as soon as practical."

Required Label

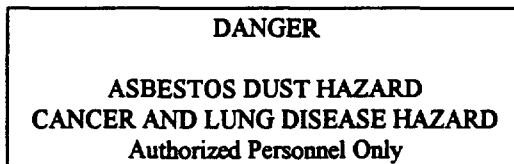
Each container and wrapped section must be labeled as follows:^{xxi}



If the material will be transported off-site for disposal, each container should also have a label showing the waste generator name and location.^{xxii}

Truck Marking^{xxiii}

During the loading and unloading of RACM, the truck must be marked with a sign saying:



The type of specifications for the sign are detailed in §61.149(d).

Waste Shipment Record^{xxiv}

A Waste Shipment Record must accompany the shipment from your plant to the disposal site. This form functions like the manifest form for hazardous waste shipments and provides a chain of custody and return receipt for you. The instructions for filling out this form are on the form and are self-explanatory. The form and instructions are on pages 23-24.

The proper DOT shipping name for asbestos waste material is:

Waste hazardous substance, n.o.s., ORM-E, NA9188, RQ, (contains friable asbestos)

If you do not receive a signed copy of the Waste Shipment Record from the disposal facility within 35 days of shipment, you must contact the transporter(s), and/or disposal facility and inquire about the status of the shipment. If you do not receive the copy within 45 days, you must file a report with the administering agency. The report must include a copy of the waste shipment record and a cover letter explaining your efforts to locate the shipment and the results of those efforts.

Asbestos Landfills^{xxv}

The RACM must be disposed at a landfill which is in compliance with the NESHAP. While these NESHAP requirements are fairly general performance standards, many state solid waste programs have special requirements, such as permit or registration, for asbestos landfills. The NESHAP outlines four basic requirements:

1. No visible emissions or alternative emissions control method as approved by EPA.
2. Either a natural barrier or warning signs and fences to prevent unauthorized access to the site.
3. Cover asbestos waste with 6 inches of non-asbestos containing material or dust control agent within 24 hours.
4. Recordkeeping and reporting requirements.

5. For Further Information

Proper asbestos management requires a multi-discipline effort to minimize Alcoa liability and protect people and the environment. Here are some Alcoa resources available to you:

Documents

- Alcoa Engineering Standard 18.18, "Asbestos Removal Standard"
- Alcoa Cooperate Asbestos Management Policy

Expertise

- OSHA/Worker Protection: Karen Krall, Environmental Health and Safety, Pittsburgh (Ext. 3220)
- Environmental Protection: Kevin S. Barnett, Pittsburgh (Ext. 2094)
- Asbestos Removal Contractors: Russ Yester, Corporate Procurement, Pittsburgh (Ext. 3504)

6. Regulatory Citation Footnote

(Cross-reference 40 CFR 61)

i§61.141
ii§61.141
iii§61.145(4)
iv§61.145(4)
v§61.145(2)
vi§61.145(1) & (4)
vii§61.145(b)(i)
viii§61.145(b)(iv)
ix§61.145(b)(2)
x§61.145(c)(1)
xi§61.145(c)(5)
xii§61.145(c)(2)(i), (3), (6)(i)
xiii§61.145(c)(3)(i)
xiv§61.145(c)(4)(ii)
xv§61.145(c)(7)
xvi§61.145(c)(6)(iv)
xvii§61.145(c)(2)(ii), (c)(6)(ii)-(iii)
xviii§61.145(c)(8)
xix§61.150(a)
xx§61.150(b)
xxi§61.150(a)(1)(iv)
xxii§61.150(a)(1)(v)
xxiii§61.150(c)
xxiv§61.150(d)
xxv§61.154

A Simplified Look at the Asbestos NESHAP Standards for Demolition & Renovations

Plant Activity			
Demolition or Renovation under §61.145?		NO	Not Regulated by NESHAP
YES			
Perform asbestos survey			
RACM found:			
Below	260 linear feet, or 160 square feet, or 35 cubic feet	Above	
Demolition	Renovation	Renovation	Demolition
§61.145(b) Notification	Not Regulated by NESHAP	NO	will renovation result in removal of more than the threshold within a calendar year Jan 01 - Dec 31?
		YES	
		§61.145(b)	Notification
		§61.145(c)	Asbestos removal standards
		§61.145(c)(8)	NESHAP training
		§61.150	Waste disposal

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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 Emissions Observed (yes/no), Corrective Action Taken	Daily Operating Hours	Inspector's Initials

Air Cleaning Device Inspection Checklist

1.	Air cleaning service 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)

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Notification of Demolition and Renovation

Operator Project #	Postmark	Date Received	Notification #
I. Type of Notification (O=Original R=Revised C=Cancelled)			
II. Facility Information (Identify owner, removal contractor, and other operator)			
Owner Name			
Address			
City	State	Zip	
Contact	Telephone		
Removal Contractor Name			
Address			
City	State	Zip	
Contact	Telephone		
Other Operator			
Address			
City	State	Zip	
Contact	Telephone		
III. Type of Operation (D=Demolition O=Ordered Demolition R=Renovation E=Emergency Renovation)			
IV. Is Asbestos Present? (yes/no)			
V. Facility Description (include building name, number and floor or room number)			
Bldg. Name			
Address			
City	State	County	
Site Location			
Building Size	No. 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	RACM to be Removed	Nonfriable Asbestos Material Not to be Removed	
2. Category I ACM Not Removed			
3. Category II ACM Not Removed			
		Category I	Category II
Pipes			Ln ft Ln m
Surface Area			Sq ft Sq m
Volume RACM Off Facility Component			Cu ft Cu m
VIII. Scheduled Dates Asbestos Removal (MM/DD/YY) Start Complete			
IX. Scheduled Dates Demolition/Renovation (MM/DD/YY) Start Complete			
X. Description of planned demolition or renovation work, and method(s) to be used			
XI. Description of work practices and engineering controls to be used to prevent emissions of asbestos at the demolition and renovation site			

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XII. Waste Transporter #1		
Name		
Address		
City	State	Zip
Contact	Telephone	
Waste Transporter #2		
Name		
Address		
City	State	Zip
Contact	Telephone	
XIII. Waste Disposal Site		
Name		
Address		
City	State	Zip
Contact	Telephone	
XIV. If Demolition Ordered by a Government Agency, Please Identify the Agency Below		
Name	Title	
Authority		
Date of Order (MM/DD/YY)	Date Ordered to Begin (MM/DD/YY)	
XV. For Emergency Renovations		
Date and Hour of Emergency		
Description of the Sudden, Unexpected Event		
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden		
XVI. Description of Procedures to be followed in the event that unexpected asbestos is found or previously nonfirable asbestos material becomes crumbled, pulverized, or reduced to powder		
XVII. I certify that an individual trained in the provisions of this regulation (40 CFR Part 61, Subpart M) will be on-site during the demolition or renovation and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours. (Required after 20 November 1991)		
signature of owner/operator		date
XVIII. I certify that the above information is correct.		
signature of owner/operator		date

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Asbestos Waste Shipment Manifest

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

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Instructions - Asbestos Waste Shipment Manifest

Waste Generator Section (Items 1 - 9)

1. Enter the name of the facility at which the 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 telephone 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 telephone 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 telephone 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
 - ☐ Non-friable 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 or cubic yards.
8. Use this space to indicate 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.

Transporter Section (Items 10 & 11)

10. 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
11. on this waste shipment record for transport. Enter date of receipt and signature.
Note: Each 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 non-asbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement 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.
-