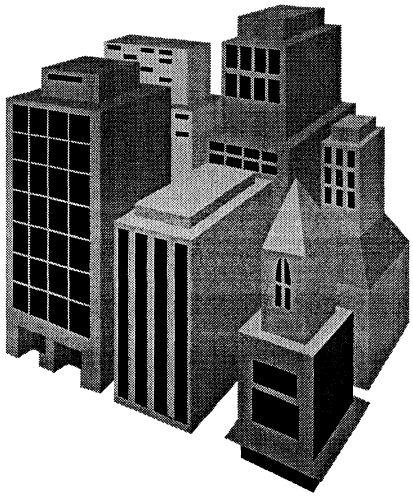
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING & COMPLIANCE

RULE 1403



ASBESTOS EMISSIONS FROM DEMOLITION/RENOVATIONS ACTIVITIES

COMPLIANCE PROMOTION MANUAL

1. Overview

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

TO COMPANIES AND CONTRACTORS THAT HANDLE ASBESTOS CONTAINING MATERIALS, RENOVATE OR DEMOLISH ANY STRUCTURE

Amended Rule 1403
Asbestos Emissions from Renovation/Demolition Activities

District Rule 1403 was amended April 8, 1994 to conform with the Federal Asbestos NESHAP (National Emissions Standards for Hazardous Air Pollutants 40 CFR 61 Subpart M). Amendments include:

Use District approved notification forms
Allows notification via electronic media
Submit updates for notification changes
Submit progress reports for renovation activities lasting greater than 1 year
Conduct asbestos survey prior to demolition/renovation
Surveys must be conducted by persons with CAL/OSHA certification
Analyze survey samples at accredited NVLAP laboratories
Remove asbestos containing materials prior to demolition *
Provide on-site trained supervisor during asbestos removal
Provide containment viewing ports
Use transparent waste bags after August 12, 1994
Maintain waste shipping records to track asbestos containing waste for 3 years
Revised definitions for friable and non-friable

Attached is a revised Asbestos Notification Form with instructions for notifications submitted after June 10, 1994. If you have any questions regarding this bulletin, please contact our Air Toxics Branch at (909) 396-2336.

* Removal of asbestos after demolition is restricted only to asbestos containing packing, gaskets, resilient floor covering and asphalt roofing products. This procedure requires submission of a Procedure 5, prior District approval, and that these materials remain in good condition and not be rendered friable during demolition, handling or disposal. Removal of these products does not require containment.

LEGISLATIVE COUNSEL'S DIGEST
AB 2791, Speier. Demolition permits.
California Health & Safety Code 19827.5
July 6, 1990

Existing law does not regulate demolition permits granted to buildings containing hazardous air pollutants.

This bill would prohibit the issuance of a demolition permit as to any building or other structure except upon the receipt from the permit applicant of a copy of each written asbestos notification regarding the building that has been required to be submitted to the United States Environmental Protection Agency, or its designee, under certain provisions of federal law relating to hazardous air pollutants, except as otherwise specified. As to the agencies that issue demolition permits, this bill would thereby create a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

The people of the State of California do enact as follows.

SECTION 1. Section 19827.5 is added to the Health and Safety code, to read:

19827.5. A demolition permit shall not be issued by any city, county, city and county, or state or local agency which is authorized to issue demolition permits as to any building or other structure except upon the receipt from the permit applicant of a copy of each written asbestos notification regarding the building that has been required to be submitted to the United States Environmental Protection Agency or to a designated state agency, or both, pursuant to Part 61 of Title 40 of the Code of Federal Regulations, or the successor to that part. The permit may be issued without the applicant submitting a copy of the written notification if the application declares that the notification is not applicable to the scheduled demolition project. The permitting agency may require the applicant to make the declaration in writing, or it may incorporate the applicant's response on the demolition permit application. Compliance with this section shall not be deemed to supersede any requirement of federal law.

AB 2791 does the following:

1. Prohibits agencies from issuing of demolition permits as to any building or other structure until a copy of the EPA-required written asbestos notification is received.

2. Allows the issuance of demolition permits without the applicant submitting a copy of the EPA-required notification if the applicant declares that the notification is not applicable to the scheduled demolition project.

3. Enables the permitting agency to require that the applicant make the declaration in writing or to incorporate the applicant's response on the demolition permit application.

COURSE OBJECTIVES

RULE 1403

ASBESTOS EMISSIONS FROM RENOVATION/DEMOLITION ACTIVITIES

COMPLIANCE PROMOTION CLASS

Upon completion of this course, each participant will be able to explain or demonstrate:

- **the characteristics of various types of asbestos materials**
- **the differences between friable and non-friable asbestos removal work practices**
- **the importance of emission control during asbestos removal and demolition operations**
- **the provisions and requirements of District Rule 1403**
- **how to prepare asbestos removal and building demolition notification forms**
- **permit requirements and conditions for HEPA filtration systems**

PHYSICAL CHARACTERISTICS OF ASBESTOS

The word **asbestos** is derived from a Greek adjective meaning **inextinguishable.** This so-called "miracle mineral" was admired for its soft and pliant properties, as well as its ability to withstand heat. A naturally occurring mineral, asbestos is distinguished from other minerals by the fact that its crystals form into long, thin fibers. Deposits of asbestos are found throughout the world. Asbestos was not widely available for commercial use until extensive deposits were discovered in Canada during the late 1800s. Following this discovery, asbestos emerged as an insulating component in thermal insulation for builders, pipes, and other high temperature applications, and as a reinforcement material for a variety of products. Primary sites of commercial asbestos production today include Canada, the Soviet Union, and South Africa. Asbestos is also mined commercially in the United States.

Asbestos minerals are divided into two groups -- **serpentine** and **amphibole.** The distinction between these groups is based upon their unique crystalline structure. **Serpentine** minerals have a sheet-like, layered, or latticed structure, while **amphiboles** have a chain-like crystal structure. Table 1-2 provides the chemical structure for each type of asbestos along with a brief listing of key characteristics.

TABLE 1-2. THE ASBESTOS MINERALS

Group	Name	Chemical Structure	Characteristics
Serpentine	Chrysotile	$3Mg0\text{-}2Si0_2H_20$	White asbestos; fine, silky, wavy fibers; flexible and high tensile strength
Amphibole	Amosite	$(FeMg)Si0_3$	Brown asbestos; straight, rigid fibers
	Crocidolite	$Mg_2Fe(Si0_3)2\text{-}FeSi0_3\text{-}H_20$	Blue asbestos; straight, rigid fibers
	Anthrophyllite	$(MgFe)_7Si_80_{22}\text{-}(OH)_2$	Brittle white fiber; rarely used.
	Tremolite	$Ca_2Mg_5Si_80_{22}(OH)_2$	Colorless to pale green; rarely used.
	Actinolite	$Ca0_3(MgFe)0\text{-}4Si0_2$	Colorless to pale green; rarely used.

Chrysotile, the only mineral in the serpentine group, is the most commonly used type of asbestos and accounts for approximately 95% of the asbestos found in buildings in the United States. Chrysotile is commonly known as "**white asbestos,**" so named for its natural color.

Five types of asbestos are found in the amphibole group:

Amosite, the second most likely type to be found in buildings, is often referred to as "**brown asbestos.**"

Crocidolite ("**blue asbestos**") has been used in high temperature insulation applications.

Anthophyllite, **tremolite**, and **actinolite** are extremely rare, and of little commercial value. Occasionally they are found as contaminants is asbestos-containing materials.

Once extracted from the earth, asbestos-containing rock is crushed, milled (ground) and graded. This produces long bundles of hundreds or thousands of fibers, each of which can be divided even further into fibrils which are invisible to the naked eye.

USES OF ASBESTOS

Recognized by first-century Greeks and Romans for its ability to withstand heat, asbestos was spun and woven into cloth in the same manner as cotton and was also used for wicks in sacred lamps. More recently, asbestos has been used in **fireprooofing, structural reinforcement, insulation,** and **acoustical and decorative applications.**

Fireproofing

One of the most common uses for asbestos is in **fireproofing** material. Spraying asbestos on steel construction beams can prevent these structural members from warping or collapsing in the event of fire.

Asbestos has typically comprised 5-95 percent of the mixture used to fireproof building materials. Chrysotile, the most commonly used type of asbestos for such applications, has usually been mixed with materials such as vermiculite, sand, cellulose fibers, gypsum, and a binder such as calcium carbonate prior to its application to structural members (beams and columns).

Asbestos fireproofing material may be visible as applied to structural members, concealed behind a suspended ceiling, or left as a deposit of excess material (overspray) on walls and ceilings. Spray-on fireproofing materials are often soft and fluffy in appearance and to the touch. They vary in color from white to dark gray, and may be painted or encapsulated in a clear or colored sealant.

Structural Reinforcement

Asbestos is added to a variety of building materials to enhance strength. It is found in concrete and concrete-like products. Asbestos cement products generally contain Portland cement, aggregate, and chrysotile fibers. The asbestos content may vary up to 50 percent by weight, depending on the use of the product. Asbestos cement products include:

- Siding and roofing shingles;
- Wall board;
- Corrugated and flat sheets for roofing, cladding, and partitions; and
- Pipes.

Asbestos has also been added to asphalt, vinyl and other materials to make products like roofing felts, exterior siding, floor tile, joint compounds, and adhesives.

Fibers in asbestos cement, asphalt, and vinyl are usually firmly bound in the cement and will be released only if the material is mechanically damaged, for example, by drilling, cutting, or sanding. Roofing shingles and siding may also show slow deterioration due to weathering.

Insulation

As an insulator, asbestos has received widespread use for thermal insulation and condensation control. It is usually sprayed, applied by trowel, or manually installed after prefabrication.

Acoustical and Decorative Applications

Asbestos has also proved valuable as a component of acoustical plaster. The material was applied by trowel or sprayed onto ceilings or walls. Because painting decreases its acoustical value, acoustical plaster often appears unpainted and ranges in color from white to gray. As a decorative product, asbestos was mixed with other materials and sprayed on ceilings and walls to produce a soft, textured appearance.

Figures 1-1 and **1-2** illustrate examples of asbestos-containing materials and products typically found **in buildings** and **in the home.**

FIGURE 1-1

Asbestos Containing Materials in Buildings

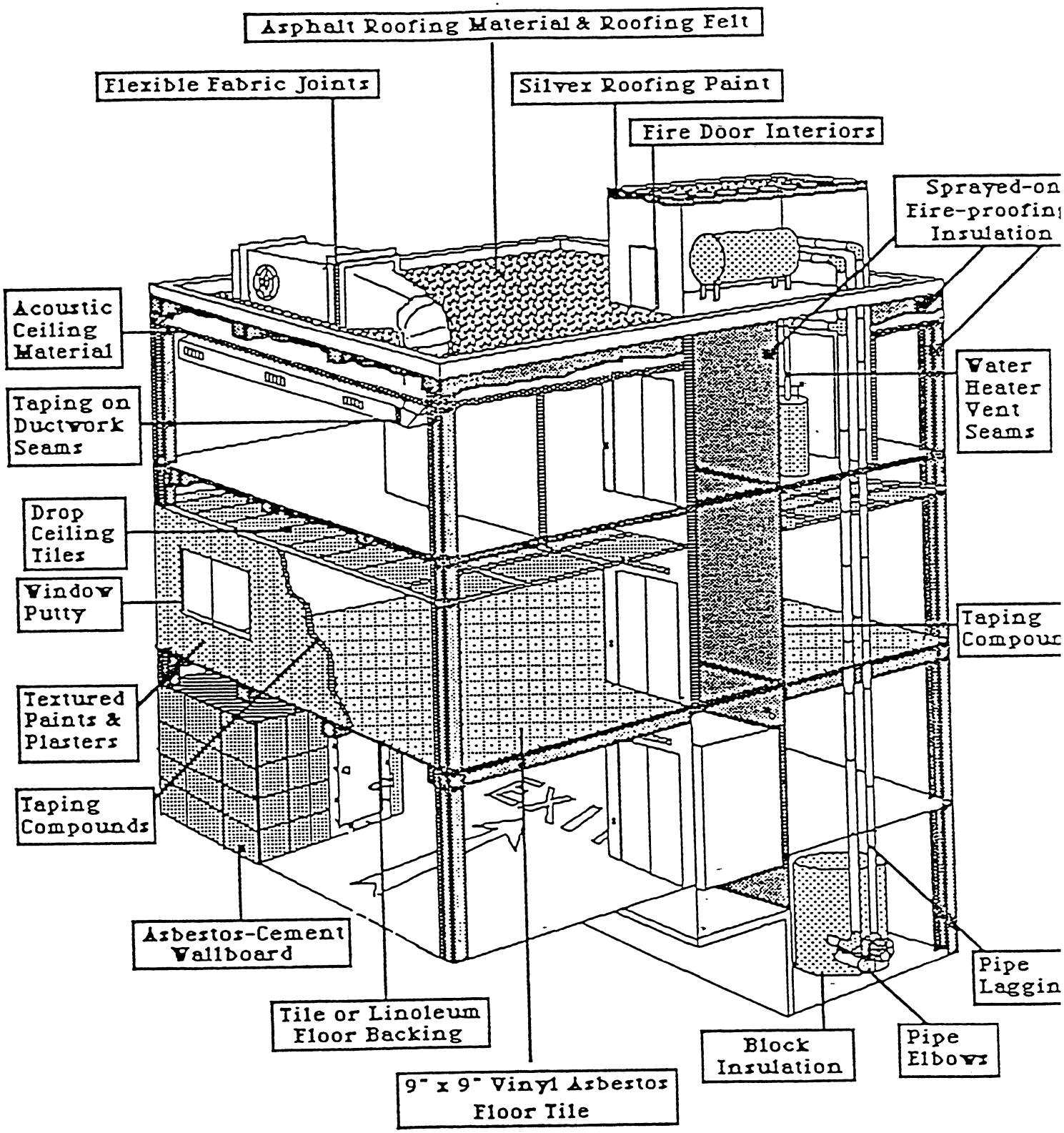
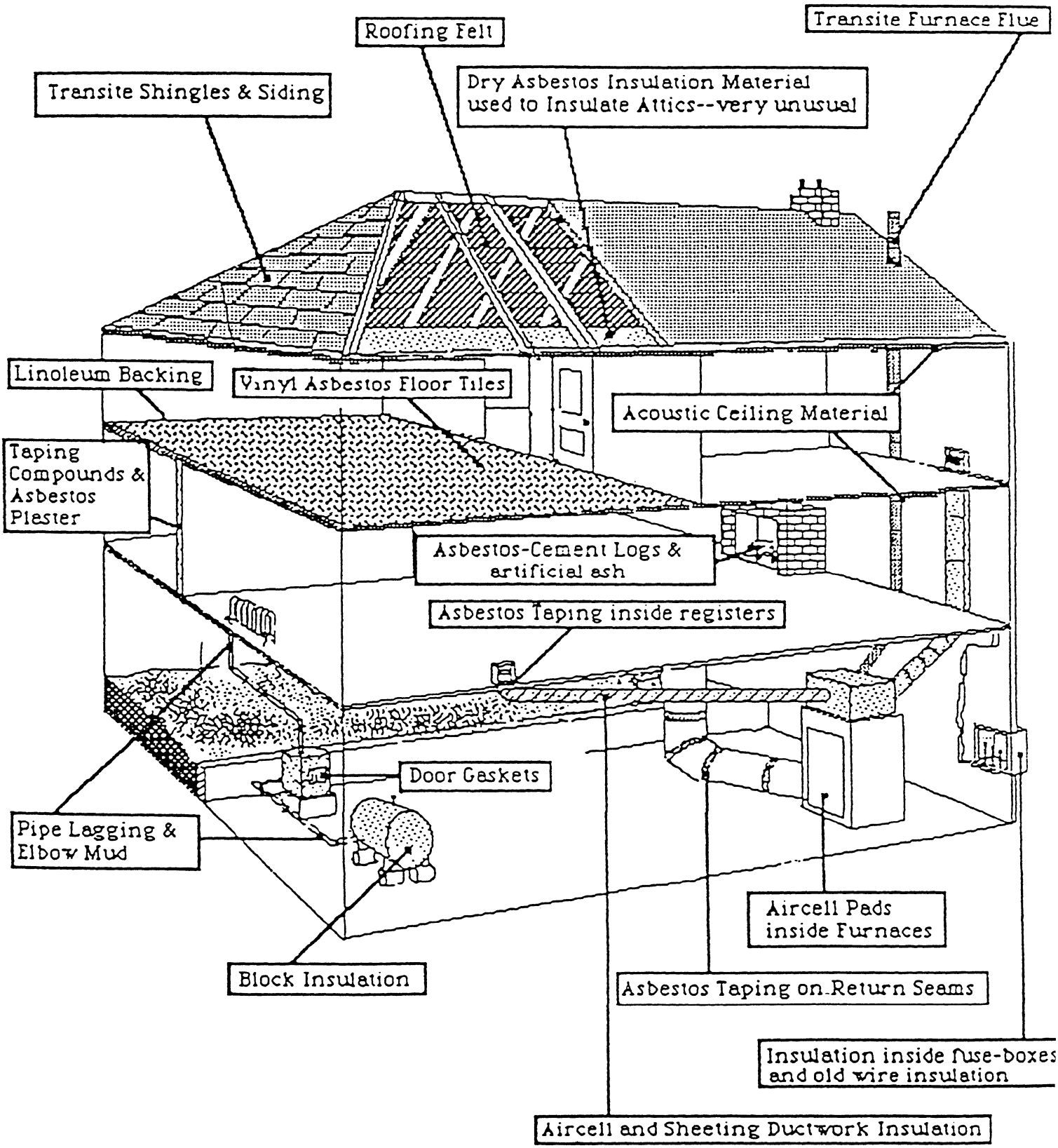


FIGURE 1-2

Asbestos Products in the Home



METHODS OF ANALYSIS FOR BULK ASBESTOS

I. Overview
   - A. Definition
   - B. Types
   - C. Properties
   - D. Uses

II. Defining asbestos-containing material (ACM) by regulations
   - A. Rule 1403
   - B. NESHAP
   - C. California Title 22

III. Methods of analysis for bulk asbestos
   - A. Polarized light microscopy (PLM)
   - B. Transmission electron microscopy
   - C. X-ray diffraction

IV. SCAQMD District Rule 1403 method of analysis

V. Details of PLM
   - A. Bulk examination
   - B. PLM
   - C. Slides of analysis and asbestos fibers

VI. Friability
   - A. Definition
   - B. Comparison of definitions in Rule 1403, NESHAP, and California Title 22

VII. Proposed changes in methodology
   - A. Rule 1403
   - B. Research Triangle Institute - Draft Method
   - C. Impact of proposed changes

POTENTIAL HEALTH RISKS ASSOCIATED WITH ASBESTOS EXPOSURE

Asbestos fibers accumulate in the lungs. As exposure increases, so does the risk of disease.

Reports of adverse health effects of asbestos were observed as early as the first century A.D. by the Greeks and Romans, who documented the existence of respiratory ailments among slaves who wove asbestos into cloth. Modern knowledge linking asbestos and a lung disease called **asbestosis** dates to 1900.

To understand the health risks associated with a substance such as asbestos, scientists evaluate data compiled from **clinical, epidemiological,** and **laboratory studies.**

Clinical data ordinarily provide the first indication that a substance may have adverse effects on the body. Physicians observe a pattern of symptoms, or the presence of a disease which appears to be linked with a particular activity or exposure to a particular substance.

Epidemiologists investigate whether an activity or substance in fact causes the symptoms or disease observed in clinical settings. Studies of workers routinely exposed to asbestos on the job have provided important information about the potential health risks associated with this substance.

Asbestos fiber concentrations for employees working directly with asbestos are many times higher than those encountered by the general public, or by most workers in buildings with asbestos-containing material (**ACM**). The **Environmental Protection Agency (EPA)** has called special attention to **friable ACM** which, because it can be "crumbled or reduced to powder by hand pressure," is thought to release fibers into the air more readily than **non-friable ACM.**

Because their exposure has been much greater, asbestos workers tend to have a much greater incidence of asbestos-related diseases than people who only live or work in buildings with ACM. This relationship between exposure and risk is known as the **dose-response effect.** However, people in buildings with ACM are still likely to experience higher risks than the public at large. Unfortunately, currently available data do not point to a reliable estimate of the actual risk.

Because of the widespread use of asbestos in building and construction materials, virtually everyone is exposed to asbestos to some extent during their lives. Although exposure to asbestos can begin in childhood, the effects of asbestos exposure may not become apparent until much later in life. Asbestos exposure may also increase the negative effects of other diseases, such as cancer, on health. Any additional exposure to asbestos caused by living or working in buildings with ACM should be avoided.

Once an association between an activity or substance and symptoms or disease has been demonstrated through epidemiological research, **laboratory studies** are undertaken to further explore their potential cause-and-effect relationship. Often these studies involve tests on animals to determine their response to the activity or substance in question. If animal responses to the activity or substance are similar to responses observed in humans, the case for their association with the observed symptoms and disease is strengthened.

Despite the results of epidemiological studies of asbestos workers and laboratory studies of animals, questions still remain about which properties of asbestos are responsible for reported adverse health effects. Physical properties of asbestos (e.g., size and durability of fibers) appear to be more important than the chemical composition of different types of asbestos in determining health risks. Current evidence, however, is not conclusive as to the relative toxicity of the various types of asbestos, nor have the conditions of exposure which are most likely to lead to adverse health effects been positively identified. Further, it is not known which specific properties of asbestos produce the various diseases associated with long-term or significant asbestos exposure (for example, lung cancer and asbestosis).

Exposure to man-made mineral fibers, such as fibrous glass and ceramic materials, is relatively recent. Although occupational exposure levels to date have not been as high as asbestos exposure levels, epidemiological data suggest that diseases of the respiratory tract, such as pulmonary fibrosis and lung cancer, may result from long-term exposure to these fibers, particularly if they are thin. Fibrous glass used for thermal insulation does not appear to pose a health risk.

To learn more about asbestos and health risks, contact the following individuals at the Los Angeles County Department of Health Services, 2615 S. Grand Avenue, Los Angeles, CA 90007:

Dr. Paul Papanek, Jr.
Toxic Epidemiology
(213) 744-3235

Cole Landowski, CIH
Environmental Hygiene
(213) 744-3221

2. Permit Rules

UNDERSTANDING DISTRICT PERMITS

A **permit** is a written authorization to build, install, alter, replace, or operate equipment that emits or controls the emission of air contaminants, like oxides of nitrogen (NO_X), carbon monoxide (CO), fine particulate matter (PM10), oxides of sulfur (SO_X), or toxics. When AQMD ensures that a piece of equipment complies with applicable rules and regulations, it issues a permit to the equipment owner or source.

Permits ensure that emission control meets the need for our region to make steady progress toward achieving and maintaining federal and state air quality standards. Any piece of equipment that emits or controls air contaminants (such as nitrogen oxides or reactive organic gases) requires a permit prior to installation and operations unless it is specifically exempted from the permit requirement by AQMD Rule 219 (*Equipment Not Requiring a Written Permit*). Although each piece of equipment required to be permitted has received an individual permit in the past, the AQMD's RECLAIM program will enable all equipment at some facilities to be covered by a single facility permit.

Permits are required prior to construction, installation, or operation for all equipment unless exempted. It is good practice to apply for and receive a permit before purchasing new equipment in order to know exactly what the permit conditions and other requirements will be before construction, installation, and operation begin.

The following steps describe AQMD's permitting process:

- Receipt by AQMD of applicant's Permit to Construct application
- Review for completeness of information submitted in application
- Review to determine that proposed equipment will be built and operated consistent with AQMD rules, regulations, and policies
- Issuance of Permit to Construct, authorizing applicant to install equipment (may serve as temporary Permit to Operate under some conditions)
- Construction/installation of equipment by source

- o AQMD inspection to verify that equipment has been built and installed as required by the Permit to Construct, and to confirm that the equipment operates in compliance with AQMD rules and regulations

- o Issuance of Permit to Operate

Permit conditions limit or require specific actions by a source to ensure:

- o Compliance with AQMD rules and regulations

- o Keeping emissions within New Source Review allowances

- o Proper operation of control devices

- o Establishment of recordkeeping and reporting mechanisms

- o Limiting of toxic emissions

- o Control of dust or odors

Compliance with permit conditions is important. Each instance of noncompliance with a permit condition can subject a facility to fines and penalties. It is very important for sources to thoroughly review the construction and operating permit conditions immediately upon receipt to ensure that they are correct and that the equipment can be operated in compliance. To change permit conditions, an appeal must be filed within ten (10) days of receiving the permit.

When to Apply for a Permit to Operate

AQMD Rules and Regulations require any facility that transfers and dispenses gasoline/diesel to have a valid air pollution permit. A "Permit to Operate" is required under the following circumstances:

NEW FACILITY

A gasoline/diesel dispensing and storage facility is constructed and operated for the first time. (Current AQMD policy requires an application for a Permit to Operate to be submitted by the owner or operator prior to construction of any facility.)

MODIFICATION

An addition or modification is made to existing equipment, other than removal of all nozzles or all tanks. This includes changing from diesel to gasoline nozzles and gasoline to diesel nozzles, changes in amount of nozzles/tanks, any changes that increase/decrease the amount of air pollution containments released,. and any changes in the type of vapor recovery system.

CHANGE OF PERMITTEE

Change of ownership, an individual or company (corporation) becomes the owner or operator of a gasoline/diesel dispensing and storage facility that was previously owned or operated by another individual or company (corporation).

CHANGE IN PERMIT CONDITION(s)

Any increase in amount of gasoline/diesel dispensing and storage rates that are above maximum amount allowed and any changes that increase/decrease air pollution containments released.

CHANGE OF LOCATION

A change of equipment location would be a relocation of existing equipment to another address.

For more information, contact **AQMD Customer Service** at **(909) 396-2900**.

(Adopted February 6, 1976)(Amended January 5, 1990)
(Amended October 8, 1993)

RULE 206. POSTING OF PERMIT TO OPERATE

(a) A person granted a permit under Rule 202 or 203 shall not operate or use any equipment unless the entire permit to operate or a legible facsimile of the entire permit is affixed upon the equipment in such manner that the permit number, equipment description, and the specified operating conditions are clearly visible and accessible. In the event that the equipment is so constructed or operated that the permit to operate or a legible facsimile cannot be so placed, the entire permit to operate or the legible facsimile of the entire permit shall be mounted so as to be clearly visible in an accessible place within 8 meters (26 feet) of the equipment, or as otherwise approved in writing by the Executive Officer.

(b) Notwithstanding subdivision (a), a facility permit shall be kept at the location for which it is issued, and be made available to authorized District personnel, upon request.

3. Sample Permit

SAMPLE PERMIT TO OPERATE FOR NEGATIVE AIR MACHINE AND ASBESTOS HEPA (HIGH EFFICIENCY PARTICULATE AIR) FILTER VACUUMS

Negative Air Machines

Negative air machines are high efficiency portable air filtration machines used in asbestos abatement projects to create and maintain negative air pressure within the asbestos removal enclosure and to control emissions of asbestos fibers to the atmosphere. Negative air machines are also used to reduce the airborne asbestos fiber concentration within the enclosure by continuously filtering large volumes of air and exhausting the air outside the enclosure. A negative air machine may be operated inside or outside the enclosure.

Negative air machines are used primarily for industrial abatement projects and may be used alone or in tandem with other negative air machine units.

Asbestos HEPA Filter Vacuums

Asbestos HEPA filter vacuums are portable vacuum cleaning devices used to clean asbestos-containing materials (ACM). These machines are primarily used inside asbestos removal enclosures, but may also be used outside an asbestos removal enclosure to clean up small amounts of ACM in emergency situations or on small projects where enclosing the work area is not practical. Only those units operated outside an asbestos removal enclosure require a **Permit to Operate.**

Emissions Calculations

Emissions cannot be quantified in lb/hr due to inconsistencies in the weight and size of fibers emitted. The following parameters, used for modeling, establish conditions for operation:

Outlet concentration
Exhaust height
Distance of nearest receptor
Duration of operation
Air flow rate

Rule Evaluation

RULE 219 No exempt equipment

REG XIII 8/86 revised version of Reg XII applies. BACT is a High Efficiency Particulate Air Filter in the process under consideration.

RULE 1401 T-BACT is a High Efficiency Particulate Air Filter. The individual cancer risk is less than one in one million ($< 1 \times 10^{-6}$)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

PERMIT TO OPERATE

Permit No.

This initial permit shall be renewed by 05/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner Or Operator: **ID**

ATTN:

Equipment located at: VARIOUS LOCATIONS IN AQMD

Equipment Description:

ASBESTOS NEGATIVE AIR MACHINE, ABATEMENT TECHNOLOGIES, HEPA AIRE 2000, EQUIPMENT NO. 1A-402, 2,000 CFM, 1 1/2 HP.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. FOR EACH RESIDENTIAL ABATEMENT PROJECT, THE NEGATIVE AIR MACHINE(S) EXHAUST SHALL BE LOCATED A MINIMUM OF 3 METERS (10 FEET) FROM THE NEAREST RECEPTOR (ANY LOCATION WHERE THE PUBLIC CAN BE EXPOSED TO ASBESTOS FIBER EMISSIONS) AND SHALL BE LOCATED AT LEAST 4 FEET ABOVE THE GROUND.

4. FOR EACH RESIDENTIAL ABATEMENT PROJECT, THE NEGATIVE AIR MACHINE(S) SHALL NOT EXHAUST MORE THAN A COMBINED TOTAL OF 4.8 MILLION CUBIC FEET OF AIR (THE TOTAL RATED AIR FLOW OF ALL MACHINE(S) IN CUBIC FEET PER MINUTE MULTIPLIED BY THE TOTAL NUMBER OF WORKING HOURS INVOLVING ASBESTOS REMOVAL).

5. FOR EACH COMMERCIAL ABATEMENT PROJECT, THE NEGATIVE AIR MACHINES(S) EXHAUST SHALL BE LOCATED A MINIMUM OF 3 METERS (10 FEET) FROM THE NEAREST RECEPTOR (ANY LOCATION WHERE THE PUBLIC CAN BE EXPOSED TO ASBESTOS FIBER EMISSIONS) AND SHALL BE LOCATED AT LEAST 10 FEET ABOVE THE GROUND.

6. FOR EACH COMMERCIAL ABATEMENT PROJECT LOCATED MORE THAN 3 METERS (10 FEET) BUT LESS THAN 30 METERS (98 FEET) FROM ANY RESIDENTIAL ZONING, THE NEGATIVE AIR MACHINE(S) SHALL NOT EXHAUST MORE THAN A COMBINED TOTAL OF 4.8 MILLION CUBIC FEET OF AIR (THE TOTAL RATED AIR FLOW OF ALL

MACHINE(S) IN CUBIC FEET PER MINUTE MULTIPLIED BY THE TOTAL NUMBER OF WORKING HOURS INVOLVING ASBESTOS REMOVAL).

7. FOR EACH COMMERCIAL ABATEMENT PROJECT LOCATED GREATER THAN OR EQUAL TO 30 METERS (98 FEET) FROM ANY RESIDENTIAL ZONING, THE NEGATIVE AIR MACHINE(S) SHALL NOT EXHASUT AIR IN WHICH THE COMBINED TOTAL AIR VOLUME (THE TOTAL RATED AIR FLOW OF ALL MACHINE(S) IN CUBIC FEET PER MINUTE MULTIPLIED BY THE TOTAL NUMBER OF WORKING HOURS INVOLVING ASBESTOS REMOVAL) WILL EXCEED THE AMOUNT SPECIFIED ON TABLE 1.

8. FOR EACH ABATEMENT PROJECT, THE EXHAUST OF EACH NEGATIVE AIR MACHINE SHALL BE ANALYZED BY THE PHASE CONTRAST MICROSCOPY (PCM) METHOD DURING THE FIRST DAY OF ACTUAL ASBESTOS REMOVAL AND AFTER EACH HEPA FILTER REPLACEMENT. IF THIS NEGATIVE AIR MACHINE IS ADDED OR REPLACED DURING A SPECIFIC PROJECT, THE EXHAUST OF THIS ADDITION OR REPLACEMENT SHALL BE ANALYZED BY THE PCM METHOD DURING THE FIRST DAY OF ITS USE DURING ACTUAL ASBESTOS REMOVAL. EXHAUST SAMPLES TO BE ANALYZED SHALL ONLY BE TAKEN DURING ACTUAL ASBESTOS REMOVAL. DURING EACH LONG TERM ABATEMENT PROJECT (GREATER THAN 15 CALENDAR DAYS), THE EXHAUST OF EACH NEGATIVE AIR MACHINE SHALL BE ANALYZED AT LEAST EVERY 15 CALENDAR DAYS.

9. THE EXHAUST CONCENTRATION OF ASBESTOS FROM THE NEGATIVE AIR MACHINE SHALL NOT EXCEED 0.01 FIBER PER CUBIC CENTIMETER. EXHAUST SAMPLES SHALL ONLY BE TAKEN FROM INSIDE THE EXHAUST DUCT PRIOR TO THE EXHAUST DUCT OUTLET.

10. THE NEGATIVE AIR MACHINE SHALL BE TESTED FOR LEAKAGE AFTER EACH HEPA FILTER CHANGE AND PRIOR TO COMMENCEMENT OF ANY ABATEMENT PROJECT.

11. A PRESSURE GAUGE SHALL BE MAINTAINED TO INDICATE, IN INCHES OF WATER COLUMN, THE PRESSURE DIFFERENTIAL ACROSS THE HEPA FILTER. THE PRESSURE DIFFERENTIAL ACROSS THE FILTER SHALL BE RECORDED AT THE BEGINNING OF EACH DAY OF USE AND IMMEDIATELY AFTER ANY FILTER CHANGE. THE PRESSURE DIFFERENTIAL SHALL BE CHECKED PERIODICALLY AND THE PRESSURE DIFFERENTIAL SHALL NOT BE LESS THAN THE INITIAL READING (READING AT THE BEGINNING OF EACH DAY OF USE OR READING AFTER ANY FILTER CHANGE). IN THE EVENT THAT THE PRESSURE DIFFERENTIAL IS LESS THAN THE INITIAL READING, THE NEGATIVE AIR MACHINE SHALL BE TURNED-OFF AND SHALL BE CHECKED FOR LEAKAGE AND RUPTURE OF THE HEPA FILTER.

12. A MECHANICAL GAUGE SHALL BE INSTALLED SO AS TO INDICATE, IN INCHES OF WATER COLUMN, THE PRESSURE DIFFERENTIAL BETWEEN THE CONTAINMENT AND THE OUTSIDE. THE MECHANICAL GAUGE SHALL BE LOCATED IN A MANNER THAT WILL ALLOW AN OBSERVER TO EASILY MONITOR THE DIFFERENTIAL PRESSURE FROM OUTSIDE OF THE CONTAINMENT. - - -

CONTINUATION OF PERMIT TO OPERATE

13. THE MINIMUM PRESSURE DIFFERENTIAL BETWEEN THE CONTAINMENT AND THE OUTSIDE SHALL BE 0.02 INCH OF WATER GAUGE TO PREVENT ASBESTOS FIBERS FROM ESCAPING THE CONTAINMENT BARRIERS AND TO ENSURE THAT THE NEGATIVE AIR MACHINE AIRFLOW IS ADEQUATE.

14. THE OPERATOR SHALL KEEP ADEQUATE RECORDS FOR THIS NEGATIVE AIR MACHINE TO VERIFY:

    1. THE NUMBER OF WORKING HOURS PER DAY INVOLVING ASBESTOS REMOVAL, AND
    2. THE EXHAUST CONCENTRATION, INCLUDING THE TIME AND DATE OF EACH SAMPLING, AND
    3. THE PRESSURE GAUGE READING AT THE BEGINNING OF EACH DAY OF USE AND AFTER EACH CHANGE OF HEPA FILTER, INCLUDING THE TIME AND DATE OF THE READING, AND
    4. THE DATE AND TIME OF EACH HEPA FILTER REPLACEMENT, AND
    5. THE DATE AND TIME OF EACH MACHINE ADDITION/REPLACEMENT.

    SUCH RECORDS SHALL BE:
    1. MAINTAINED IN A MANNER APPROVED BY THE DIRECTOR OF ENFORCEMENT DIVISION, AND
    2. RETAINED FOR A PERIOD OF TWO YEARS, AND
    3. MADE AVAILABLE UPON REQUEST BY THE EXECUTIVE OFFICER OR HIS REPRESENTATIVE.

15. THE EXECUTIVE OFFICER OF HIS REPRESENTATIVE SHALL BE NOTIFIED AND A WRITTEN APPROVAL SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF ANY ABATEMENT PROJECT:

    1. THE VOLUME OF WHICH WILL EXCEED THE TOTAL MACHINE(S) EXHAUST VOLUME SPECIFIED IN CONDITIONS 4,6, OR 7, OR
    2. LOCATED WITHIN 1,000 FEET FROM THE OUTER BOUNDARY OF A SCHOOL.

CONTINUATION OF PERMIT TO OPERATE

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

Dorris M Bailey

By Dorris M. Bailey/ltv
01/27/92

TABLE 1

DISTANCE (METERS) TO RESIDENTIAL	DISTANCE (FEET) TO RESIDENTIAL	AIR VOLUME (MILLION CUBIC FEET)
30 to < 35	98 to < 115	7.7
35 to < 40	115 to < 131	9.9
40 to < 45	131 to < 148	13.8
45 to < 50	148 to < 164	18.8
50 to < 55	164 to < 180	24.1
55 to < 60	180 to < 197	32.1
60 to < 65	197 to < 213	40.8
65 to < 70	213 to < 230	51.0
70 to < 75	230 to < 246	62.8
75 to < 80	246 to < 262	76.5
80 to < 85	262 to < 279	92.2
85 to < 90	279 to < 295	110.0
90 to < 95	295 to < 312	130.0
95 to < 100	312 to < 328	153.0
100 to < 105	328 to < 344	179.0
105 to < 110	344 to < 361	217.0
110 to < 115	361 to < 377	250.0
115 to < 120	377 to < 394	286.0
120 to < 125	394 to < 410	325.0
125 to < 130	410 to < 427	368.0
130 to < 135	427 to < 443	415.0
135 to < 140	443 to < 459	465.0
140 and greater	459 and greater	520.0

(Adopted January 9, 1976)(Amended January 5, 1990)(Amended December 3, 2004)

RULE 201. PERMIT TO CONSTRUCT

A person shall not build, erect, install, alter or replace any equipment or agricultural permit unit, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment or agricultural permit unit for which the application was filed is granted or denied, or the application is canceled.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 219 EQUIPMENT NOT REQUIRING A WRITTEN PERMIT PURSUANT TO REGULATION II

INDEX OF EXEMPTION CATEGORIES

(Adopted Jan. 9, 1976)(Amended Oct. 8, 1976)(Amended February 2, 1979)
(Amended Oct. 5, 1979)(Amended Sept. 4, 1981)(Amended June 3, 1988)
(Amended September 11, 1992)(Amended August 12, 1994)
(Amended December 13, 1996)(Amended September 11, 1998)
(Amended August 13, 1999)(Amended May 19, 2000)
(Amended November 17, 2000)(Amended July 11, 2003)
(Amended December 3, 2004)(Amended May 5, 2006)(Amended July 14, 2006)
(Amended June 1, 2007)(Amended May 3, 2013)

RULE 219 - EQUIPMENT NOT REQUIRING A WRITTEN PERMIT PURSUANT TO REGULATION II

Purpose

The purpose of this rule is to identify equipment, processes, or operations that emit small amounts of air contaminants that shall not require written permits, unless such equipment, process or operation is subject to subdivision (s) – Exceptions. In addition, exemption from written permit requirements in this rule is only applicable if the equipment, process, or operation is in compliance with subdivision (t).

Written permits are not required for:

(a) Mobile Equipment

(1) motor vehicle or vehicle as defined by the California Vehicle Code; or

(2) marine vessel as defined by Health and Safety Code Section 39037.1; or

(3) a motor vehicle or a marine vessel that uses one internal combustion engine to propel the motor vehicle or marine vessel and operate other equipment mounted on the motor vehicle or marine vessel; or

(4) equipment which is mounted on a vehicle, motor vehicle or marine vessel if such equipment does not emit air contaminants;

(5) asphalt pavement heaters (which are any mobile equipment used for the purposes of road maintenance and new road construction) provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

This subdivision does not apply to air contaminant emitting equipment which is mounted and operated on motor vehicles, marine vessels, mobile hazardous material treatment systems, mobile day tankers [except those carrying solely fuel oil with an organic vapor pressure of 5 mm Hg (0.1 psi) absolute or less at 21.1 ^{o}C (70 ^{o}F)].

(b) Combustion and Heat Transfer Equipment

(1) Internal combustion engines with a manufacturer's rating of 50 brake horsepower or less; or internal combustion engines, used exclusively for electrical generation at remote two-way radio transmission towers where no utility, electricity or natural gas is available within a ½ mile radius, with a manufacturer's rating of 100 brake horsepower or less and are fired exclusively on diesel #2 fuel; or stationary gas turbine engines including micro-turbines, with a rated maximum heat input capacity of 3,500,000 British thermal units (Btu) per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013 provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(2) Boilers, process heaters, or any combustion equipment that has a rated maximum heat input capacity of 2,000,000 Btu per hour (gross) or less and are equipped to be heated exclusively with natural gas, methanol, liquefied petroleum gas, or any combination thereof; or diesel fueled boilers, that have a rated maximum heat input capacity of 2,000,000 Btu per hour or less, are fueled exclusively with diesel #2 fuel, and are located more than 4,000 feet above sea level or more than 15 miles offshore from the mainland, and where the maximum NOx emission output of the equipment is less than one pound per day and uses less than 50 gallons of fuel per day, and have been in operation prior to May 3, 2013 provided a filing pursuant to Rule 222 is submitted to the Executive Officer. This exemption does not apply to internal combustion engines or turbines. This exemption does not apply whenever there are emissions other than products of combustion, unless the equipment is specifically exempt under another section of this rule, except for food ovens with a rated maximum heat input capacity of 2,000,000 Btu/hour or less, that are fired exclusively on natural gas and where the VOC emissions from yeast fermentation are less than one pound per day provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(3) Portable diesel fueled heaters, with a rated maximum heat input capacity of 250,000 Btu per hour or less, and that are equipped with burner(s) designed to fire exclusively on diesel fuel only provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(4) Power pressure washers and hot water or steam washers and cleaners, that are equipped with a heater or burner that is designed to be fired on diesel fuel, has a rated maximum heat input capacity of 550,000 Btu per hour or less, is equipped with non-resettable chronometer, and the maximum NOx emission output of the equipment is less than one pound per day and uses no more than 50 gallons of fuel per day provided a filing pursuant to Rule 222 is submitted to the Executive Officer. This exemption does not apply to internal combustion engines or turbines.

(5) Fuel cells, which produce electricity in an electro-chemical reaction and use phosphoric acid, molten carbonate, proton exchange membrane, or solid oxide technologies; and associated heating equipment, including heaters that have a rated maximum heat input capacity of greater than 2,000,000 Btu per hour, provided that the supplemental heat used is 90,000 therms per year or less and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(6) Test cells and test stands used for testing burners or internal combustion engines provided that the equipment uses less than 800 gallons of diesel fuel and 3,500 gallons of gasoline fuel per year, or uses other fuels with equivalent or less emissions.

(7) Internal combustion engines used exclusively for training at educational institutions.

(8) Portable internal combustion engines, including any turbines qualified as military tactical support equipment under Health and Safety Code Section 41754, registered pursuant to the California Statewide Portable Engine Registration Program.

(c) Structures and Equipment - General

(1) Structural changes which cannot change the quality, nature or quantity of air contaminant emissions.

(2) Repairs or maintenance not involving structural changes to any equipment for which a permit has been granted.

(3) Identical replacement in whole or in part of any equipment where a permit to operate had previously been granted for such equipment under Rule 203, except seals for external or internal floating roof storage tanks.

(4) Replacement of floating roof tank seals provided that the replacement seal is of a type and model which the Executive Officer has determined is capable of complying with the requirements of Rule 463.

(5) Equipment utilized exclusively in connection with any structure which is designed for and used exclusively as a dwelling for not more than four families, and where such equipment is used by the owner or occupant of such a dwelling.

(6) Laboratory testing and quality control testing equipment used exclusively for chemical and physical analysis, non-production bench scale research equipment, and control equipment exclusively venting such equipment. Laboratory testing equipment does not include engine test stands or test cells unless such equipment is also exempt pursuant to paragraph (b)(4).

(7) Vacuum-producing devices used in laboratory operations or in connection with other equipment not requiring a written permit.

(8) Vacuum-cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes.

(9) Hoods, stacks, or ventilators.

(10) Passive and intermittently operated active venting systems used at and around residential structures to prevent the accumulation of naturally occurring methane and associated gases in enclosed spaces.

(d) Utility Equipment - General

(1) Comfort air conditioning or ventilating systems which are not designed or used to remove air contaminants generated by, or released from, specific equipment units, provided such systems are exempt pursuant to paragraph (b)(2).

(2) Refrigeration units except those used as or in conjunction with air pollution control equipment.

(3) Water cooling towers and water cooling ponds not used for evaporative cooling of process water or not used for evaporative cooling of water from barometric jets or from barometric condensers and in which no chromium compounds are contained.

(4) Equipment used exclusively to generate ozone and associated ozone destruction equipment for the treatment of cooling tower water or for water treatment processes.

(5) Equipment used exclusively for steam cleaning provided such equipment is also exempt pursuant to paragraph (b)(2).

(6) Equipment used exclusively for space heating provided such equipment is exempt pursuant to paragraph (b)(2).

(7) Equipment used exclusively to compress or hold purchased quality natural gas, except internal combustion engines not exempted pursuant to paragraph (b)(1).

(8) Emergency ventilation systems used exclusively to scrub ammonia from refrigeration systems during process upsets or equipment breakdowns.

(9) Emergency ventilation systems used exclusively to contain and control emissions resulting from the failure of a compressed gas storage system.

(10) Passive carbon adsorbers, with a maximum vessel capacity of no more than 120 gallons, without mechanical ventilation, and used exclusively for odor control at wastewater treatment plants or sewer collection systems, including sanitary sewers, manholes, and pump stations.

(11) Refrigerant recovery and/or recycling units. This exemption does not include refrigerant reclaiming facilities.

(12) Carbon arc lighting equipment provided such equipment is exempt pursuant to paragraph (b)(1).

(e) Glass, Ceramic, Metallurgical Processing, and Fabrication Equipment

(1) Crucible-type or pot-type furnaces with a brimful capacity of less than 7400 cubic centimeters (452 cubic inches) of any molten metal and control equipment exclusively venting the equipment.

(2) Crucible furnaces, pot furnaces, or induction furnaces with a capacity of 450 kilograms (992 pounds) or less each, and control equipment used to exclusively vent the equipment where no sweating or distilling is conducted and where only the following materials are poured or held in a molten state:

(A) Aluminum or any alloy containing over 50 percent aluminum,

(B) Magnesium or any alloy containing over 50 percent magnesium,

(C) Tin or any alloy containing over 50 percent tin,

(D) Zinc or any alloy containing over 50 percent zinc,

(E) Copper or any alloy containing over 50 percent copper,

(F) Precious metals, and

(G) Ceramic materials, including glass and porcelain.

Provided these materials do not contain alloying elements of arsenic, beryllium, cadmium, chromium and/or lead and such furnaces are exempt pursuant to paragraph (b)(2).

(3) Molds used for the casting of metals and control equipment used to exclusively vent the equipment.

(4) Inspection equipment used exclusively for metal, plastic, glass, or ceramic products and control equipment used to exclusively vent such equipment.

(5) Ovens used exclusively for curing potting materials or castings made with epoxy resins, provided such ovens are exempt pursuant to paragraph (b)(2).

(6) Hand-held or automatic brazing and soldering equipment, and control equipment that exclusively vents such equipment, provided that the equipment uses one quart per day or less or 22 quarts per calendar month or less of material containing VOC. This exemption does not include hot oil, hot air, or vapor phase solder leveling equipment and related control equipment.

(7) Brazing ovens where no volatile organic compounds (except flux) are present in the materials processed in the ovens, provided such ovens are exempt pursuant to paragraph (b)(2).

(8) Welding equipment oxygen gaseous fuel-cutting equipment, laser etching equipment, engraving of metal equipment and associated control equipment. This exemption does not include plasma arc-cutting equipment or laser cutting equipment that is used to cut stainless steel or alloys containing chromium, nickel, cadmium or lead, or laser cutters that are rated more than 400 watts and control equipment venting such equipment.

(9) Sintering equipment used exclusively for the sintering of metal (excluding lead) or glass where no coke or limestone is used, and control equipment exclusively venting such equipment, provided such equipment is exempt pursuant to paragraph (b)(2).

(10) Mold forming equipment for foundry sand to which no heat is applied, and where no volatile organic materials are used in the process, and control equipment used to exclusively vent such equipment.

(11) Metal forming equipment or equipment used for heating metals for forging, rolling, pressing, or drawing of metals provided that any lubricants used have 50 grams or less of VOC per liter of material or a

VOC composite partial pressure of 20 mm Hg or less at 20 ^{o}C (68 ^{o}F) provided such heaters are exempt pursuant to paragraph (b)(2) and control equipment exclusively venting the equipment.

(12) Heat treatment equipment used exclusively for heat treating glass or metals (provided no volatile organic compounds materials are present), or equipment used exclusively for case hardening, carburizing, cyaniding, nitriding, carbonitriding, siliconizing or diffusion treating of metal objects, provided any combustion equipment involved is exempt pursuant to paragraph (b)(2).

(13) Ladles used in pouring molten metals.

(14) Tumblers used for the cleaning or deburring of solid materials.

(15) Die casting machines, except those used for copper base alloys, those with an integral furnace having a brimful capacity of more than 450 kg (992 lbs.), or those using a furnace not exempt pursuant to paragraph (b)(2).

(16) Furnaces or ovens used for the curing or drying of porcelain enameling, or vitreous enameling provided such furnaces or ovens are exempt pursuant to paragraph (b)(2).

(17) Wax burnout kilns where the total internal volume is less than 0.2 cubic meter (7.0 cubic feet) or kilns used exclusively for firing ceramic ware, provided such kilns are exempt pursuant to paragraph (b)(2) and control equipment used to exclusively vent the equipment.

(18) Shell-core and shell-mold manufacturing machines.

(19) Furnaces used exclusively for melting titanium materials in a closed evacuated chamber where no sweating or distilling is conducted, provided such furnaces are exempt pursuant to paragraph (b)(2).

(20) Vacuum metallizing chambers which are electrically heated or heated with equipment that is exempt pursuant to paragraph (b)(2), and control equipment used to exclusively vent such equipment, provided the control equipment is equipped with a mist eliminator or the vacuum pump used with control equipment demonstrates operation with no visible emissions from the vacuum exhaust.

(f) Abrasive Blasting Equipment

(1) Blast cleaning cabinets in which a suspension of abrasive in water is used and control equipment used to exclusively vent such equipment.

(2) Manually operated abrasive blast cabinet, vented to a dust-filter where the total internal volume of the blast section is 1.5 cubic meters (53 cubic feet) or less, and any dust filter exclusively venting such equipment.

(3) Enclosed equipment used exclusively for shot blast removal of flashing from rubber and plastics at sub-zero temperatures and control equipment exclusively venting such equipment.

(4) Shot peening operations, flywheel type and control equipment used to exclusively vent such equipment.

(5) Portable sand/water blaster equipment and associated internal combustion engine provided the water in the mixture is 66 percent or more by volume is maintained during operation of such equipment. Internal combustion engines must be exempt pursuant to paragraph (b)(1).

(g) Machining Equipment

(1) Equipment used exclusively for buffing (except tire buffers), polishing, carving, mechanical cutting, drilling, machining, pressing, routing, sanding, stamping, surface grinding or turning provided that any lubricants, coolants, or cutting oils used have 50 grams or less of VOC per liter of material or a VOC composite partial pressure of 20 mm Hg or less at 20 ^{o}C (68 ^{o}F) and control equipment used to exclusively vent such equipment. This exemption does not include asphalt pavement grinders.

(2) Equipment used exclusively for shredding of wood, or the extruding, handling, or storage of wood chips, sawdust, or wood shavings and control equipment used to exclusively vent such equipment. This exemption does not include internal combustion engines over 50 bhp, which are used to supply power to such equipment.

(3) Equipment used exclusively to mill or grind coatings or molding compounds where all materials charged are in the paste form.

(h) Printing and Reproduction Equipment

(1) Printing and related coating and/or laminating equipment and associated dryers and curing equipment, as well as associated air pollution control equipment, provided such dryers and curing equipment are exempt pursuant to paragraph (b)(2), and air pollution control equipment is not required for source specific rule compliance, and provided that:

(A) the VOC emissions from such equipment (including clean-up) are three pounds per day or less or 66 pounds per calendar month or less; or

(B) the total quantity of plastisol type inks, coatings and adhesives and associated VOC containing solvents (including clean-up) is six (6) gallons per day or less or 132 gallons per calendar month or less; or

(C) the total quantity of UV or electron beam type (non-solvent based and non-waterborne) inks, coatings, and adhesives, fountain solutions (excluding water) and associated VOC containing solvents (including clean-up) is six (6) gallons per day or less, or 132 gallons per calendar month or less; or

(D) the total quantity of inks, coatings and adhesives not specified in (B) or (C) above, fountain solutions (excluding water) and associated VOC containing solvents (including clean-up) is two (2) gallons per day or less or 44 gallons per calendar month or less; or

(E) all inks, coatings and adhesives, fountain solutions, and associated VOC containing solvents (excluding cleanup solvents) contain fifty (50) grams or less of VOC per liter of material and all cleanup solvents contain twenty five (25) grams or less of VOC per liter of material, and the total quantity of VOC emissions do not exceed one ton per calendar year, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

If combination of the inks, coatings, and adhesives identified in (B), (C), and/or (D) are used in any equipment, this exemption is only applicable if the operations meet the criteria specified in (A) or (E), or the total usage of inks, coatings, adhesives, fountain solutions (excluding water) and associated VOC containing solvents (including cleanup) meets the most stringent applicable usage limit in (B), (C) or (D). For exemptions based on usage, solvent based UV and waterborne UV materials are subject to the usage limits in (D). VOC emissions shall be determined using test methods approved by the District, CARB and U.S. EPA. In the absence of approved test methods, the applicant can submit VOC calculation procedures acceptable to the District.

(2) Photographic process equipment by which an image is reproduced upon material sensitized by radiant energy and control equipment exclusively

venting such equipment, excluding wet gate printing utilizing perchloroethylene and its associated control equipment.

(3) Lithographic printing equipment which uses laser printing.

(4) Printing equipment used exclusively for training and non-production at educational institutions.

(5) Flexographic plate making and associated processing equipment.

(6) Corona treating equipment and associated air pollution control equipment used for surface treatment in printing, laminating and coating operations.

(7) Hand application of materials used in printing operations including but not limited to the use of squeegees, screens, stamps, stencils, any hand tools, and associated air pollution control equipment used to exclusively vent the hand application of materials in printing operations unless such air pollution control equipment is required for source specific rule compliance.

(i) Pharmaceuticals, Cosmetics, and Food Processing and Preparation Equipment

(1) Smokehouses for preparing food in which the maximum horizontal inside cross-sectional area does not exceed 2 square meters (21.5 square feet) and control equipment exclusively venting the equipment.

(2) Smokehouses exclusively using liquid smoke, and which are completely enclosed with no vents to either a control device or the atmosphere.

(3) Confection cookers where products are edible and intended for human consumption.

(4) Grinding, blending, or packaging equipment used exclusively for tea, cocoa, roasted coffee, flavor, fragrance extraction, dried flowers, or spices, provided that the facility uses less than one gallon per day or twenty-two (22) gallons per month of VOC containing solvents, and control equipment used to exclusively vent such equipment.

(5) Equipment used in eating establishments for the purpose of preparing food for human consumption.

(6) Equipment used to convey or process materials in bakeries or used to produce noodles, macaroni, pasta, food mixes, and drink mixes where products are edible and intended for human consumption provided that the facility uses less than one gallon per day or twenty-two (22) gallons per month of VOC containing solvents, and control equipment exclusively venting such equipment. This exemption does not include storage bins

located outside buildings, or equipment not exempt pursuant to paragraph (b)(2).

(7) Cooking kettles where the entire product in the kettle is edible and intended for human consumption. This exemption does not include deep frying equipment used in facilities other than eating establishments.

(8) Coffee roasting equipment with a maximum capacity of 10 pounds or less and control equipment used to exclusively vent the equipment.

(9) Equipment used exclusively for tableting, or packaging vitamins, or coating vitamins, herbs, or dietary supplements provided that the equipment uses waterborne solutions that contain a maximum VOC content of no more than 25 grams per liter, or the facility uses less than one gallon per day or twenty-two (22) gallons per month of VOC containing solvents, and control equipment used exclusively to vent such equipment.

(10) Equipment used exclusively for tableting or packaging pharmaceuticals and cosmetics, or coating pharmaceutical tablets, provided that the equipment uses waterborne solutions that contain a maximum VOC content of no more than 25 grams per liter, or the facility uses less than one gallon per day or twenty-two (22) gallons per month of VOC containing solvents, and control equipment used exclusively to vent such equipment.

(11) Modified atmosphere food packaging equipment using mixture of gases of no more than 0.4% of carbon monoxide by volume.

(12) Charbroilers in multi-family residential units only if used by the owner or occupant of such dwelling for non-commercial purposes.

(j) Plastics, Composite, and Rubber Processing Equipment

(1) Presses or molds used for curing, post curing, or forming composite products and plastic products where no VOC or chlorinated blowing agent is present, and control equipment is used exclusively to vent these presses or molds.

(2) Presses or molds with a ram diameter of less than or equal to 26 inches used for curing or forming rubber products and composite rubber products excluding those operating above 400 °F.

(3) Ovens used exclusively for the forming of plastics or composite products, where no foam forming or expanding process is involved, provided such equipment is exempt pursuant to paragraph (b)(2).

(4) Equipment used exclusively for softening or annealing plastics, provided such equipment is exempt pursuant to paragraph (b)(2).

(5) Extrusion equipment used exclusively for extruding rubber products or plastics where no organic plasticizer is present, or for pelletizing polystyrene foam scrap, except equipment used to extrude or to pelletize acrylics, polyvinyl chloride, polystyrene, and their copolymers.

(6) Injection or blow molding equipment for rubber or plastics where no blowing agent other than compressed air, water or carbon dioxide is used, and control equipment used to exclusively vent such equipment.

(7) Mixers, roll mills and calendars for rubber or plastics where no material in powder form is added and no VOC containing solvents, diluents or thinners are used.

(8) Ovens used exclusively for the curing of vinyl plastisols by the closed-mold curing process, provided such ovens are exempt pursuant to paragraph (b)(2).

(9) Equipment used exclusively for conveying and storing plastic materials, provided they are not in powder form and control equipment exclusively venting the equipment.

(10) Hot wire cutting of expanded polystyrene foam and woven polyester film.

(11) Photocurable stereolithography equipment and associated post curing equipment.

(12) Laser sintering equipment used exclusively for the sintering of nylon or plastic powders and control equipment exclusively venting such equipment, provided such equipment is exempt pursuant to paragraph (b)(2).

(13) Roller to roller coating systems that create 3-dimensional images provided:

(A) the VOC emissions from such equipment (including cleanup) are three (3) pounds per day or less or 66 pounds per calendar month or less; or

(B) the coatings contain twenty five (25) grams or less of VOC per liter of material provided that the coating used on such equipment

is 12 gallons per day or less or 264 gallons per calendar month or less; or

(C) the coatings contain fifty (50) grams or less of VOC per liter of material, and using exclusively cleanup solvents containing twenty five (25) grams or less of VOC per liter of material, and the total quantity of VOC emissions do not exceed one ton per calendar year, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

VOC emissions shall be determined using test methods approved by the District, CARB and U.S. EPA. In the absence of approved test methods, the applicant can submit VOC calculation procedures acceptable to the District.

(k) Mixing, Blending, and Packaging Equipment

(1) Batch mixers, which have a brimful capacity of 55 gallons or less (7.35 cubic feet) and control equipment used exclusively to vent the equipment, and associated filling equipment.

(2) Equipment used exclusively for mixing and blending of materials where no VOC containing solvents are used and no materials in powder form are added, and associated filling equipment.

(3) Equipment used exclusively for mixing and blending of materials to make water emulsions of asphalt, grease, oils, or waxes where no materials in powder or fiber form are added.

(4) Equipment used to blend, grind, mix, or thin liquids to which powders may be added, with a capacity of 950 liters (251 gallons) or less, where no supplemental heat is added and no ingredient charged (excluding water) exceeds 135 ^{o}F and control equipment exclusively venting the equipment.

(5) Cosmetics filling stations where the filling equipment is hard piped to the cosmetics mixer or the holding tank feeding the filling equipment provided that the mixer and holding tank is exempt under this rule.

(6) Concrete mixers, with a rated working capacity of one cubic yard or less and control equipment used exclusively to vent the equipment.

(7) Equipment used exclusively for the packaging of lubricants or greases.

(8) Equipment used exclusively for the packaging of sodium hypochlorite-based household cleaning or sodium hypochlorite-based pool products and control equipment used exclusively to vent the equipment.

(9) Foam packaging equipment using twenty (20) gallons per day or less or 440 gallons per calendar month or less of liquid foam material or containing fifty (50) grams of VOC per liter of material, or less.

(l) Coating and Adhesive Process/Equipment

(1) Equipment used exclusively for coating objects with oils, melted waxes or greases which contain no VOC containing materials, including diluents or thinners.

(2) Equipment used exclusively for coating objects by dipping in waxes or natural and synthetic resins which contain no VOC containing materials including, diluents or thinners.

(3) Batch ovens with 1.5 cubic meters (53 cubic feet) or less internal volume where no melting occurs, provided such equipment is exempt pursuant to paragraph (b)(2). This exemption does not include ovens used to cure vinyl plastisols or debond brake shoes.

(4) Ovens used exclusively to cure 30 pounds per day or less or 660 pounds per calendar month or less of powder coatings, provided that such equipment is exempt pursuant to paragraph (b)(2).

(5) Spray coating equipment operated within control enclosures.

(6) Coating or adhesive application or laminating equipment such as air, airless, air-assisted airless, high volume low pressure (HVLP), air brushes, electrostatic spray equipment, roller coaters, dip coaters, vacuum coaters, flow coaters and spray machines provided that:

(A) the VOC emissions from such equipment (including clean-up) are three (3) pounds per day or less or 66 pounds per calendar month or less; or

(B) the total quantity of UV or electron beam (non-solvent based and non-waterborne) coatings adhesives and associated VOC containing solvents (including clean-up) used in such equipment is six (6) gallons per day or less or 132 gallons per calendar month or less; or

(C) the total quantity of organic solvent based coatings and adhesives and associated VOC containing solvents (including clean-up) used in such equipment is one (1) gallon per day or less or 22 gallons per calendar month or less; or

(D) the total quantity of water reducible or waterborne coatings and adhesives and associated VOC containing solvents (including clean-up) used in such equipment is three (3) gallons per day or less or 66 gallons per calendar month or less; or

(E) the total quantity of polyester resin and gel coat type materials and associated VOC containing solvents (including clean-up) used in such equipment is one (1) gallon per day or less or 22 gallons per calendar month or less; or

(F) all coatings, adhesives, polyester resin and gel coat type materials and associated VOC containing solvents (excluding cleanup solvents) contain fifty (50) grams or less of VOC per liter of material and all cleanup solvents contain twenty five (25) grams or less of VOC per liter of material, and the total quantity of VOC emissions do not exceed one ton per calendar year, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

If combination of the coatings, adhesives and polyester resin and gel coat type materials identified in (B), (C), (D) and/or (E) are used in any equipment, this exemption is only applicable if the operations meet the criteria specified in (A) or (F), or the total usage of coatings, adhesives, polyester resin and gel coat type materials and associated VOC containing solvents (including cleanup) meets the most stringent applicable limit in (B), (C), (D) or (E). For exemptions based on usage, solvent-based UV and waterborne UV materials are subject to the usage limits in (C) and (D), respectively. VOC emissions shall be determined using test methods approved by the District, CARB and U.S. EPA. In the absence of approved test methods, the applicant can submit VOC calculation procedures acceptable to the District.

(7) Spray coating and associated drying equipment and control enclosures used exclusively for educational purposes in educational institutions.

(8) Control enclosures with an internal volume of 27 cubic feet or less, provided that aerosol cans, air brushes, or hand applications are used exclusively.

(9) Portable coating equipment and pavement stripers used exclusively for the application of architectural coatings and associated internal combustion engines provided such equipment is exempt pursuant to subdivision (a) or paragraph (b)(1).

(10) Hand application of resins, adhesives, dyes, and coatings using devices such as brushes, daubers, rollers, and trowels.

(11) Drying equipment such as flash-off ovens, drying ovens, or curing ovens associated with coating or adhesive application or laminating equipment provided the drying equipment is exempt pursuant to paragraph (b)(2), and provided that:

(A) the total quantity of VOC emissions from all coating and/or adhesive application, and laminating equipment that the drying equipment serves is three (3) pounds per day or less or 66 pounds per calendar month or less; or

(B) the total quantity of UV or electron beam (non-solvent based and non-waterborne) coatings and adhesives, and associated VOC containing solvents (including clean-up) used in all coating and/or adhesive application, and laminating equipment that the drying equipment serves is six (6) gallons per day or less or 132 gallons per calendar month or less; or

(C) the total quantity of solvent based coatings and adhesives and associated VOC containing solvents (including clean-up) used in all coating and/or adhesive application, and laminating equipment that the drying equipment serves is one (1) gallon per day or less or 22 gallons per calendar month or less; or

(D) the total quantity of water reducible or waterborne coating and adhesives and associated VOC containing solvents (including clean-up) used in all coating and/or adhesive application, and laminating equipment that the drying equipment serves is three (3) gallons per day or less or 66 gallons per calendar month or less; or

(E) the total quantity of polyester resin and gel coat type materials and associated VOC containing solvents (including clean-up) used in all coating, adhesive application, and laminating equipment that the drying equipment serves is one (1) gallon per day or less or 22 gallons per calendar month or less; or

(F) all coatings, adhesives, polyester resin and gel coat type materials and associated VOC containing solvents (excluding cleanup solvents) contain fifty (50) grams or less of VOC per liter of material and all cleanup solvents contain twenty five (25) grams or less of VOC per liter of material, and the total quantity of VOC

emissions do not exceed one ton per calendar year, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

If combination of the coatings, adhesives and polyester resin and gel coat type materials identified in (B), (C), (D) and/or (E) are used in any equipment, this exemption is only applicable if the operations meet the criteria specified in (A) or (F), or the total usage of coatings, adhesives, polyester resin and gel coat type materials and associated VOC containing solvents (including cleanup) meets the most stringent applicable limit in (B), (C), (D) or (E). For exemptions based on usage, solvent based UV and waterborne UV materials are subject to the usage limits in (C) and (D), respectively. VOC emissions shall be determined using test methods approved by the District, CARB and US EPA. In the absence of approved test methods, the applicant can submit VOC calculation procedures acceptable to the District.

(m) Storage and Transfer Equipment

(1) Equipment used exclusively for the storage and transfer of fresh, commercial or purer grades of:

(A) Sulfuric acid or phosphoric acid with an acid strength of 99 percent or less by weight.

(B) Nitric acid with an acid strength of 70 percent or less by weight.

(C) Water based solutions of salts or sodium hydroxide.

(2) Equipment used exclusively for the storage and/or transfer of liquefied gases, not including:

(A) LPG greater than 10,000 pounds.

(B) Hydrogen fluoride greater than 100 pounds.

(C) Anhydrous ammonia greater than 500 pounds.

(3) Equipment used exclusively for the transfer of less than 75,700 liters (20,000 gallons) per day of unheated VOC containing materials, with an initial boiling point of 150 ^{o}C (302 ^{o}F) or greater, or with an organic vapor pressure of 5 mm Hg (0.1 psi) absolute or less at 21.1 ^{o}C (70 ^{o}F).

(4) Equipment used exclusively for the storage including dispensing of unheated VOC containing materials with an initial boiling point of 150 ^{o}C (302 ^{o}F) or greater, or with an organic vapor pressure of 5 mm Hg (0.1 psi) absolute or less at 21.1 ^{o}C (70 ^{o}F). This exemption does not include liquid fuel storage greater than 160,400 liters (40,000 gallons).

(5) Equipment used exclusively for transferring VOC containing liquids, materials containing VOCs, or compressed gases into containers of less than 225 liters (60 gallons) capacity, except equipment used for transferring more than 4,000 liters (1,057 gallons) of materials per day with a vapor pressure greater than 25.8 mm Hg (0.5 psia) at operating conditions.

(6) Equipment used exclusively for the storage and transfer of liquid soaps, liquid detergents, vegetable oils, fatty acids, fatty esters, fatty alcohols, waxes and wax emulsions.

(7) Equipment used exclusively for the storage and transfer of refined lubricating or hydraulic oils and control equipment used to exclusively vent such equipment.

(8) Equipment used exclusively for the storage and transfer of crankcase drainage oil and control equipment used to exclusively vent such equipment.

(9) Equipment used exclusively for VOC containing liquid storage or transfer to and from such storage, of less than 950 liters (251 gallons) capacity or equipment used exclusively for the storage of odorants for natural gas, propane, or oil with a holding capacity of less than 950 liters (251 gallons) capacity and associated transfer and control equipment used exclusively for such equipment provided a filing pursuant to Rule 222 is submitted to the Executive Officer. This exemption does not include asphalt.

(10) Equipment used exclusively for the storage and transfer of "top white" (i.e., Fancy) or cosmetic grade tallow or edible animal fats intended for human consumption and of sufficient quality to be certifiable for United States markets.

(11) Equipment, including tar pots (or tar kettles), used exclusively for the storage, holding, melting and transfer of asphalt or coal tar pitch with a maximum holding capacity of less than 600 liters (159 gallons); or equipment, including tar pots (or tar kettles), used exclusively for the storage, holding, melting and transfer of asphalt or coal tar pitch with a maximum holding capacity of no more than 3,785 liters (1,000 gallons), is equipped with burner(s) designed to fire exclusively on liquefied petroleum gases, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(12) Pumps used exclusively for pipeline transfer of liquids.

(13) Equipment used exclusively for the unheated underground storage of 23,000 liters (6,077 gallons) or less, and equipment used exclusively for the transfer to or from such storage of organic liquids with a vapor pressure of 77.5 mm Hg (1.5 psi) absolute or less at actual storage conditions.

(14) Equipment used exclusively for the storage and/or transfer of an asphalt-water emulsion heated to 150 ^{o}F or less.

(15) Liquid fuel storage tanks piped exclusively to emergency internal combustion engine-generators, turbines or pump drivers.

(16) Bins used for temporary storage and transport of material with a capacity of 2,080 liters (550 gallons) or less.

(17) Equipment used for material storage where no venting occurs during filling or normal use.

(18) Equipment used exclusively for storage, blending, and/or transfer of water emulsion intermediates and products, including latex, with a VOC content of 5% by volume or less or a VOC composite partial pressure of 5 mm Hg (0.1 psi) or less at 20 ^{o}C (68 ^{o}F).

(19) Equipment used exclusively for storage and/or transfer of sodium hypochlorite solution.

(20) Equipment used exclusively for the storage of VOC containing materials which are stored at a temperature at least 130 ^{o}C (234 ^{o}F) below its initial boiling point, or have an organic vapor pressure of 5 mm Hg (0.1 psia) absolute or less at the actual storage temperature. To qualify for this exemption, the operator shall, if the stored material is heated, install and maintain a device to measure the temperature of the stored VOC containing material. This exemption does not include liquid fuel storage greater than 160,400 liters (40,000 gallons), asphalt storage, or coal tar pitch storage.

(21) Stationary equipment used exclusively to store and/or transfer organic compounds that do not contain VOCs.

(22) Unheated equipment including associated control equipment used exclusively for the storage and transfer of fluorosilicic acid at a concentration of 30% or less by weight and a vapor pressure of 24 mm Hg or less at 77 ^{o}F (25 ^{o}C). The hydrofluoric acid concentration within the fluorosilicic acid solution shall not exceed 1% by weight.

(23) Equipment, including asphalt day tankers, used exclusively for the storage, holding, melting, and transfer of asphalt or coal tar pitch, that is mounted on a motor vehicle with a maximum holding capacity of less than 600 liters (159 gallons); or equipment, including asphalt day tankers, used exclusively for the storage, holding, melting, and transfer of asphalt or coal tar pitch, that is mounted on a motor vehicle, with a maximum holding capacity of no more than 18,925 liters (5,000 gallons), is equipped with burner(s) designed to fire exclusively on liquefied petroleum gases only, and provided a filing pursuant to Rule 222 is submitted to the Executive Officer.

(n) Natural Gas and Crude Oil Production Equipment

(1) Well heads and well pumps.

(2) Crude oil and natural gas pipeline transfer pumps.

(3) Gas, hydraulic, or pneumatic repressurizing equipment.

(4) Equipment used exclusively as water boilers, water or hydrocarbon heaters, and closed heat transfer systems (does not include steam generators used for oilfield steam injection) that have:

(A) a maximum heat input rate of 2,000,000 Btu per hour or less, and

(B) been equipped to be fired exclusively with purchased quality natural gas, liquefied petroleum gas, produced gas which contains less than 10 ppm hydrogen sulfide, or any combination thereof.

(5) The following equipment used exclusively for primary recovery, and not associated with community lease units:

(A) Gas separators and boots.

(B) Initial receiving, gas dehydrating, storage, washing and shipping tanks with an individual capacity of 34,069 liters (9,000 gallons) or less.

(C) Crude oil tank truck loading facilities (does not include a loading rack), and gas recovery systems exclusively serving tanks exempted under subparagraph (n)(5)(B).

(D) Produced gas dehydrating equipment.

(6) Gravity-type oil water separators with a total air/liquid interfacial area of less than 45 square feet and the oil specific gravity of 0.8251 or higher (40.0 API or lower).

The following definitions will apply to subdivision (n) above:

PRIMARY RECOVERY - Crude oil or natural gas production from "free-flow" wells or from well units where only water, produced gas or purchased quality gas is injected to repressurize the production zone.

COMMUNITY LEASE UNITS - Facilities used for multiple-well units (three or more wells), whether for a group of wells at one location or for separate wells on adjoining leases.

SHIPPING TANKS - Fixed roof tanks, which operate essentially as "run down" tanks for separated crude oil where the holding time is 72 hours or less.

WASH TANKS - Fixed roof tanks which are used for gravity separation of produced crude oil/water, including single tank units, and which are used concurrently for receipt, separation, storage and shipment.

(o) Cleaning

The exemptions in this subdivision do not include any equipment using solvents that are greater than 5 percent by weight of perchloroethylene, methylene chloride, carbon tetrachloride, chloroform, 1,1,1-trichloroethane, trichloroethylene, or any combination thereof, with either a capacity of more than 7.6 liters (2 gallons) or was designed as a solvent cleaning and drying machine regardless of size. In addition, the exemptions specified in this subdivision apply only if the equipment is also exempt pursuant to paragraph (b)(2) of this rule.

(1) Cleaning equipment and associated waste storage tanks used exclusively to store the solutions drained from this equipment:

(A) unheated batch, provided:

(i) the volume of the solvent reservoir is one (1) gallon or less, or

(ii) the VOC emissions from the equipment are not more than 3 pounds per day or 66 pounds per calendar month.

(B) devices used for cleaning of equipment used for the application of inks, adhesives, and coatings provided:

(i) the volume of the solvent reservoir is five (5) gallons or less, or

(ii) the VOC emissions from the equipment are not more than three (3) pounds per day or 66 pounds per calendar month.

(C) remote reservoir cleaners, provided the solvent from the sink-like area immediately drains into an enclosed solvent container while the parts are being cleaned.

(2) Vapor degreasers with an air/vapor interface surface area of 1.0 square foot or less, provided such degreasers have an organic solvent loss of 3 gallons per day or less excluding water or 66 gallons per calendar month or less excluding water.

(3) Cleaning equipment using materials with a VOC content of twenty-five (25) grams of VOC per liter of material, or less, and associated dryers exclusively serving these cleaners, provided such equipment is also exempt pursuant to paragraph (b)(2).

(4) Hand application of solvents for cleaning purposes including but not limited to the use of rags, daubers, swabs, and squeeze bottles as well as associated air pollution control equipment, unless air pollution control equipment is required for source specific rule compliance.

(p) Miscellaneous Process Equipment

(1) Equipment, including dryers, used exclusively for dyeing, stripping, or bleaching of textiles where no VOC containing materials, including diluents or thinners are used, provided such equipment is also exempt pursuant to paragraph (b)(2) and control equipment exclusively venting the equipment.

(2) Equipment used exclusively for bonding lining to brake shoes, where no VOC containing materials are used and control equipment exclusively venting such equipment.

(3) Equipment used exclusively to liquefy or separate oxygen, nitrogen, or the rare gases from air, except equipment not exempt pursuant to paragraph (b)(1) or (b)(2).

(4) Equipment used exclusively for surface preparation, including but not limited to paint stripping, pickling, desmutting, de-scaling, passivation, and/or deoxidation, and any water and associated rinse tanks and waste storage tanks exclusively to store the solutions drained from the equipment, that exclusively uses any one or combination of the following:

(A) organic materials containing 50 grams or less of VOCs per liter of material;

(B) formic acid, acetic acid, boric acid, citric acid, phosphoric acid, and sulfuric acids;

(C) hydrochloric acid in concentrations of 12 percent by weight or less;

(D) alkaline oxidizing agents;

(E) hydrogen peroxide;

(F) salt solutions, except for air-sparged or rectified processes with salt solutions containing hexavalent chromium, chromates, dichromates, nickel, or cadmium;

(G) sodium hydroxide, provided the process is not sparged or rectified; or

(H) nitric acid, hydrochloric acid, or hydrofluoric acid, provided that the equipment in which it is used has an open surface area of one square foot or less, is unheated, and produces no visible emissions.

This exemption does not include chemical milling or circuit board etching using ammonia-based etchants.

(5) Equipment used exclusively for the plating, stripping, or anodizing of metals as described below:

(A) electrolytic plating of exclusively brass, bronze, copper, iron, tin, lead, zinc, and precious metals;

(B) electroless nickel plating, provided that the process is not air-sparged and no electrolytic reverse plating occurs;

(C) the electrolytic stripping of brass, bronze, copper, iron, tin, zinc, and precious metals, provided no chromic, hydrochloric, nitric or sulfuric acid is used;

(D) the non-electrolytic stripping of metals, provided the stripping solution is not sparged and does not contain nitric acid.

(E) anodizing using exclusively sulfuric acid and/or boric acid with a total bath concentration of 20 percent acids or less by weight and using 10,000 amp-hours per day or less of electricity;

(F) anodizing using exclusively phosphoric acid with a bath concentration of 15 percent or less phosphoric acid by weight and using 20,000 amp-hours per day or less of electricity; or

(G) water and associated rinse tanks and waste storage tanks used exclusively to store the solutions drained from equipment used for the plating, stripping, or anodizing of metals.

(6) Closed loop solvent recovery systems used for recovery of waste solvent generated on-site using refrigerated or liquid-cooled condenser, or air-cooled (where the solvent reservoir capacity is less than 10 gallons) condenser.

(7) Equipment used exclusively for manufacturing soap or detergent bars, including mixing tanks, roll mills, plodders, cutters, wrappers, where no heating, drying or chemical reactions occur.

(8) Inert gas generators, except equipment not exempt pursuant to paragraph (b)(2).

(9) Hammermills used exclusively to process aluminum and/or tin cans, and control equipment exclusively venting such equipment.

(10) Paper shredding and carpet and paper shearing as well as associated conveying systems, baling equipment, and control equipment venting such equipment.

(11) Chemical vapor type sterilization equipment where no Ethylene Oxide is used, and with a chamber volume of two (2) cubic feet or less used by healthcare facilities and control equipment exclusively venting the equipment.

(12) Hot melt adhesive equipment.

(13) Pyrotechnic equipment, special effects or fireworks paraphernalia equipment used for entertainment purposes, provided such equipment is exempt pursuant to subdivision (b).

(14) Ammunition or explosive testing equipment.

(15) Fire extinguishing equipment using halons.

(16) Industrial wastewater treatment equipment which only does pH adjustment, precipitation, gravity separation and/or filtration of the wastewater, including equipment used for reducing hexavalent chromium and/or destroying cyanide compounds. This exemption does not include treatment processes where VOC and/or toxic materials are emitted, or where the inlet concentration of cyanide salts through the wastewater treatment process prior to pH adjustment exceeds 200 mg/liter.

(17) Rental equipment operated by a lessee and which is not located more than twelve consecutive months at any one facility in the District provided that the owner of the equipment has a permit to operate issued by the District and that the lessee complies with the terms and conditions of the permit to operate.

(18) Industrial wastewater evaporators treating water generated from on-site processes only, where no VOC and/or toxic materials are emitted and provided that the equipment is exempt pursuant to paragraph (b)(2).

(19) Foam application equipment using two-component polyurethane foam where no VOC containing blowing agent is used, excluding chlorofluorocarbons or methylene chloride, and control equipment exclusively venting this equipment.

(20) Toner refilling and associated control equipment.

(21) Evaporator used at dry cleaning facilities to dispose of separator wastewater and control equipment exclusively venting the equipment.

(22) Equipment used to recycle aerosol cans by puncturing the can in an enclosed system which is vented through an activated carbon filter. This exemption shall only apply to aerosol recycling systems where the aerosol can to be recycled was used as part of their operation at the facility or from facilities under common ownership.

(q) Agricultural Sources

(1) Notwithstanding the exemption under this subdivision, any internal combustion engines, or gasoline transfer and dispensing equipment purchased or modified after July 7, 2006 that are not exempt pursuant to paragraphs (b)(1), (b)(6), and (m)(9) of this rule shall be subject to permit requirements. Emergency internal combustion engines are exempt from permit requirements for these agricultural sources.

(2) Except as provided in paragraph (q)(1), agricultural permit units at agricultural sources not subject to Title V with actual emissions less than the amounts listed in the following table:

Table

Pollutant (Tons/Year)	South Coast Air Basin	Riverside County Portion of Salton Sea Air Basin	Riverside County Portion of Mojave Desert Air Basin
VOC	5.0	12.5	50.0
NOx	5.0	12.5	50.0
SOx	50.0	50.0	50.0
CO	25.0	50.0	50.0
PM10	35.0	35.0	50.0
Single Hazardous			

Air Pollutant	5.0	5.0	5.0
Combination Hazardous Air Pollutants	12.5	12.5	12.5

Emissions of fugitive dust and emissions from soil amendments and fertilizers are not to be counted when evaluating emissions for purposes of this subdivision.

(3) Orchard wind machines powered by an internal combustion engine with a manufacturer's rating greater than 50 brake horsepower provided the engine is operated no more than 30 hours per calendar year.

(4) Orchard heaters approved by the California Air Resources Board to produce no more than one gram per minute of unconsumed solid carbonaceous material.

(r) Registered Equipment and Filing Program

(1) Any portable equipment which is registered in accordance with the Statewide Portable Equipment Registration Program adopted pursuant to California Health and Safety Code Section 41750 et seq.

(2) Any equipment listed in Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II.

(s) Exceptions

Notwithstanding equipment identified in (a) through (r) of this rule, written permits are required pursuant to paragraphs (s)(1) and (s)(2) and filings are required under Rule 222 pursuant to paragraph (s)(3):

(1) Equipment, process materials or air contaminants subject to:

(A) Regulation IX – Standards of Performance for New Stationary Sources (NSPS); or

(B) Regulation X – National Emission Standards for Hazardous Air Pollutants (NESHAP - Part 61, Chapter I, Title 40 of the Code of Federal Regulations); or

(C) Emission limitation requirements of either the state Air Toxic Control Measure (ATCM) or NESHAP - Part 63, Title 40 of the Code of Federal Regulations; or

(2) Equipment when the Executive Officer has determined that the risk will be greater than identified in subparagraph (d)(1)(A), or paragraphs (d)(2) or (d)(3) in Rule 1401 – New Source Review of Toxic Air Contaminants or the equipment may not operate in compliance with all applicable District Rules and Regulations. Once the Executive Officer makes such a determination and written notification is given to the equipment owner or operator, the equipment shall thereafter be subject to Rules 201 and 203 for non-RECLAIM sources, Rule 2006 for RECLAIM sources, and Regulation XXX – Title V Permits for major sources.

(3) The following equipment, processes or operations that are located at a single facility, which does not hold a written permit for any other equipment, processes or operations, and emit four (4.0) tons or more of VOCs in any Fiscal Year (July 1 to June 30) beginning July 1, 2007 or emitted four (4.0) tons or more of VOCs in the Fiscal Year July 1, 2006 – June 30, 2007. The four (4.0) ton per Fiscal Year threshold shall be calculated cumulatively for all categories of equipment, processes or operations listed in subparagraphs (A) through (C) below. One filing shall be required for all of the categories of equipment, processes or operations subject to this provision as listed in subparagraphs (A) through (C) below. Associated VOC emissions shall be reported under the Annual Emissions Reporting program and fees shall be paid pursuant to Rule 301, subdivision (t).

(A) Printing operations individually exempted under paragraph (h)(1) and (h)(7).

(B) Coating or adhesive application or laminating equipment and devices individually exempted under paragraphs (l)(6) and (l)(10).

(C) Hand applications of VOC containing materials individually exempted under paragraph (o)(4).

(t) Recordkeeping

Any person claiming exemptions under the provisions of this Rule shall provide adequate records pursuant to Rule 109 and any applicable Material Safety Data Sheets (MSDS), to verify and maintain any exemption. Any test method used to verify the percentages, concentrations, vapor pressures, etc., shall be the approved test method as contained in the District's Test Method Manual or any method approved by the Executive Officer, CARB, and the EPA.

(u) Compliance Date

(1) The owner/operator of equipment previously not requiring a permit pursuant to Rule 219 shall comply with Rule 203 – Permit to Operate within one year from the date the rule is amended to remove the exemption unless compliance is required before this time by written notification by the Executive Officer. Effective on or after July 11, 2003 for purpose of Rule 301(e), emissions from equipment that has been removed from an exemption shall be considered "permitted" beginning January 1 or July 1, whichever is sooner, after Rule 219 is amended to remove the exemption, even if an application has not been submitted to obtain a permit.

(2) Agricultural sources constructed or operating prior to January 1, 2004 requiring Title V permits shall submit Title V permit applications on or before June 29, 2004.

(3) Existing agricultural permit units constructed or operating prior to January 1, 2004 at agricultural sources requiring Title V permits and requiring written permits pursuant to paragraph (q)(1) shall submit applications for a Permit to Operate by December 17, 2004. For the purpose of Rule 301(e), emissions from agricultural permit units subject to this paragraph shall be considered "permitted" July 1, 2005.

(4) Existing agricultural permit units constructed or operating prior to January 1, 2004 at agricultural sources not subject to Title V with actual emissions equal to or greater than the amounts listed in the table in subdivision (q) and requiring written permits pursuant to paragraph (q)(2) shall submit applications for a Permit to Operate by June 30, 2005. For the purpose of Rule 301(e), emissions from agricultural permit units subject to this paragraph shall be considered "permitted" July 1, 2005.

(5) Agricultural permit units built, erected, altered, modified, installed or replaced after January 1, 2004, but prior to January 1, 2005 if written permits are required pursuant to subdivision (q), shall submit applications for a Permit to Operate by March 5, 2005. For the purpose of Rule 301(e), emissions from agricultural permit units subject to this paragraph shall be considered "permitted" July 1, 2005.

(6) Agricultural permit units built, erected, altered, modified, installed or replaced on or after January 1, 2005, if written permits are required pursuant to subdivision (q) shall comply with Rule 201. For the purpose

of Rule 301(e), emissions from agricultural permit units subject to this paragraph shall be considered "permitted" July 1, 2005.

(Adopted June 1, 1990)(Amended December 7, 1990)(Amended July 10, 1998)
(Amended January 8, 1999)(Amended March 12, 1999)(Amended August 13, 1999)
(Amended March 17, 2000)(Amended August 18, 2000)(Amended June 15, 2001)
(Amended May 3, 2002)(Amended February 7, 2003)(Amended May 2, 2003)
(Amended March 4, 2005)(Amended March 7, 2008)(Amended June 5, 2009)
(Amended September 10, 2010)(Amended June 5, 2015)(Amended October 7, 2016)

RULE 1401. NEW SOURCE REVIEW OF TOXIC AIR CONTAMINANTS

(a) Purpose

This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants listed in Table I. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

(b) Applicability

(1) Applications for new, relocated, and modified permit units which were received by the District on or after June 1, 1990 shall be subject to Rule 1401. Applications shall be subject to the version of Rule 1401 that is in effect at the time the application is deemed complete. Permit units installed without a required permit to construct shall be subject to this rule, if the application for a permit to operate such equipment was submitted after June 1, 1990.

(2) This rule shall apply to new, relocated, and modified equipment identified in Rule 219 as not requiring a written permit if the risk from the equipment will be greater than identified in subparagraph (d)(1)(A), or paragraphs (d)(2) or (d)(3) in Rule 1401.

(c) Definitions

(1) ACCEPTABLE STACK HEIGHT for a permit unit is defined as a stack height that does not exceed two and one half times the height of the permit unit or two and one half times the height of the building housing the permit unit, and shall not be greater than 65 meters (213 feet), unless the applicant demonstrates to the satisfaction of the Executive Officer that a greater height is necessary.

(2) BEST AVAILABLE CONTROL TECHNOLOGY FOR TOXICS (T-BACT) means the most stringent emissions limitation or control technique which:

(A) has been achieved in practice for such permit unit category or class of source; or

(B) is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Executive Officer to be technologically feasible for such class or category of sources, or for a specific source.

(3) CANCER BURDEN means the estimated increase in the occurrence of cancer cases in a population subject to a MICR of greater than or equal to one in one million (1.0×10^{-6}) resulting from exposure to toxic air contaminants.

(4) CONTEMPORANEOUS RISK REDUCTION means any reduction in risk resulting from a decrease in emissions of toxic air contaminants at the facility that is permanent, real, quantifiable and enforceable through District permit conditions. Permit applications associated with the increase and decrease in risk must be submitted together and the reduction of risk must occur before the start of operation of the permit unit that will have an increased risk. A contemporaneous risk reduction shall be calculated based on the actual average annual emissions, as determined by facility records, and annual emissions declarations pursuant to Rule 301 as appropriate, or other data approved by the Executive Officer, whichever is less, which have occurred during the two-year period immediately preceding the date of application.

(5) FACILITY means any permit unit or grouping of permit units or other air contaminant-emitting activities which are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groupings, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Notwithstanding the above, sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or

OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

(6) INDIVIDUAL SUBSTANCE ACUTE HAZARD INDEX (HI) is the ratio of the estimated maximum one-hour concentration of a toxic air contaminant for a potential maximally exposed individual to its acute reference exposure level.

(7) INDIVIDUAL SUBSTANCE CHRONIC HAZARD INDEX (HI) is the ratio of the estimated long-term level of exposure to a toxic air contaminant for a potential maximally exposed individual to its chronic reference exposure level. The chronic hazard index calculations shall include multipathway consideration, if applicable.

(8) MAXIMUM INDIVIDUAL CANCER RISK (MICR) is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminants for residential receptor locations calculated pursuant to the Risk Assessment Procedures referenced in subdivision (e). The MICR for worker receptor locations shall be calculated pursuant to the Risk Assessment Procedures referenced in subdivision (e). The MICR calculations shall include multipathway consideration, if applicable.

(9) MODIFICATION means any physical change in, change in method of operation, or addition to an existing permit unit that requires an application for a permit to construct and/or operate. Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:

(A) an increase in the production rate, unless such increase will cause the maximum design capacity of the equipment to be exceeded; or

(B) an increase in the hours of operation; or

(C) a change in ownership of a source; or

(D) a change in formulation of the materials processed which will not result in a net increase of the MICR, cancer burden, or chronic or acute HI from the associated permit unit.

For facilities that have been issued a facility permit pursuant to Regulation XX or a Title V permit pursuant to Regulation XXX, modification means any physical change in, change in method of operation of, or addition to an

existing individual article, machine, equipment or other contrivance which would have required an application for a permit to construct and/or operate, were the unit not covered under a facility permit or Title V permit.

(10) PERMIT UNIT means any article, machine, equipment, or other contrivance, or combination thereof, which may cause or control the issuance of air contaminants, and which requires a written permit pursuant to Rules 201 and/or 203. For facilities that have been issued a facility permit or Title V permit, a permit unit for the purpose of this rule means any individual article, machine, equipment or other contrivance which may cause or control the issuance of air contaminants and which would require a written permit pursuant to Rules 201 and/or 203 if it was not covered under a facility permit or Title V permit. For publicly-owned sewage treatment operations, each process within multi-process permit units at the facility shall be considered a separate permit unit for purposes of this rule.

(11) RECEPTOR LOCATION means

(A) for the purpose of calculating acute HI, any location outside the boundaries of the facility at which a person could experience acute exposure; and

(B) for the purpose of calculating chronic HI and MICR, any location outside the boundaries of the facility at which a person could experience chronic exposure.

The Executive Officer shall consider the potential for exposure in determining whether the location will be considered a receptor location.

(12) RELOCATION means the removal of an existing permit unit from one parcel of land in the District and installation at another parcel of land where two parcels are not in actual physical contact and are not separated solely by a public roadway or other public right-of-way. The removal of a permit unit from one location within a facility and installation at another location within the facility is a relocation only if an increase in maximum individual cancer risk in excess of one in one million (1.0×10^{-6}) or a Hazard Index of 1.0 occurs at any receptor location.

(13) TOTAL ACUTE HAZARD INDEX (HI) is the sum of the individual substance acute HIs for all toxic air contaminants affecting the same target organ system.

(14) TOTAL CHRONIC HAZARD INDEX (HI) is the sum of the individual substance chronic HIs for all toxic air contaminants affecting the same target organ system.

(15) TOXIC AIR CONTAMINANT is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. For the purpose of this rule, toxic air contaminants are those listed in Table I.

(d) Requirements

The Executive Officer shall deny the permit to construct a new, relocated or modified permit unit if emissions of any toxic air contaminant listed in Table I may occur, unless the applicant has substantiated to the satisfaction of the Executive Officer all of the following:

(1) MICR and Cancer Burden

The cumulative increase in MICR which is the sum of the calculated MICR values for all toxic air contaminants emitted from the new, relocated or modified permit unit will not result in any of the following:

(A) an increased MICR greater than one in one million (1.0×10^{-6}) at any receptor location, if the permit unit is constructed without T-BACT;

(B) an increased MICR greater than ten in one million (10×10^{-6}) at any receptor location, if the permit unit is constructed with T-BACT;

(C) a cancer burden greater than 0.5.

(2) Chronic Hazard Index

The cumulative increase in total chronic HI for any target organ system due to total emissions from the new, relocated or modified permit unit owned or operated by the applicant for which applications were deemed complete on or after the date when the risk value for the compound is finalized by the state Office of Environmental Health Hazard Assessment (OEHHA) will not exceed 1.0 at any receptor location.

(3) Acute Hazard Index

The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit owned or operated by the applicant for which applications were deemed complete on or after the date when the risk value for the compound is finalized by OEHHA will not exceed 1.0 at any receptor location.

(4) If a permit contains operating conditions imposed pursuant to Rule 1401, which prohibit or limit the use or emission of toxic air contaminants, those conditions shall apply only to those toxic air contaminants listed in the version of Rule 1401 applicable at the time the permit conditions were imposed.

(5) Federal New Source Review for Toxics

Pursuant to Section 112(g) of the federal Clean Air Act (CAA), no person shall begin construction or reconstruction of a major stationary source emitting hazardous air pollutants listed in Section 112 (b) of the CAA, unless the source is constructed with Best Available Control Technology for Toxics (T-BACT) and complies with all other applicable requirements, including definitions and public noticing, referenced in 40 CFR 63.40 through 63.44. The requirements of this paragraph shall not apply to:

(A) any source that is subject to an existing National Emission Standard for Hazardous Air Pollutants (NESHAP) pursuant to sections 112(d), 112(h), or 112(j) of the federal CAA;

(B) any source that is exempted from regulations under a NESHAP issued pursuant to sections 112(d), 112(h), or 112(j) of the federal CAA;

(C) any source that has received all necessary air quality permits for such construction or reconstruction before June 29, 1998;

(D) electric utility steam generating units, unless and until such time as these units are added to the source category list pursuant to the requirements of section 112(c)(5) of the federal CAA;

(E) any sources that are within a source category that has been deleted from the source category list pursuant to section 112(c)(9) of the federal CAA; or

(F) research and development activities.

Compliance with this paragraph does not relieve any owner or operator of a major stationary source from complying with all other applicable District rules and regulations, including this rule, any applicable state airborne toxic control measure, or other applicable state and federal laws. Exemptions under subdivision (g) of this rule do not apply to this paragraph. This paragraph shall take effect retroactively from June 29, 1998.

(e) Risk Assessment Procedures

(1) The Executive Officer shall periodically publish procedures for determining health risks under this rule, except as provided in paragraph (e)(3). To the extent possible, the procedures will be consistent with the most recently adopted policies and procedures of the state OEHHA.

(2) To calculate the cumulative increase in MICR pursuant to paragraph (d)(1), the increase from each permit unit shall be based on the emissions of toxic air contaminants, the risk values, and risk assessment procedures applicable at the time when each complete application was deemed complete by the District.

(3) The following equipment or industry source categories shall be allowed to use SCAQMD Risk Assessment Procedures for Rules 1401 and 212 (Version 7.0, July 1, 2005) in order to calculate the cumulative increase in MICR pursuant to paragraph (d)(1):

(A) spray booths, until the Executive Officer, as quickly as practicable, can make a recommendation regarding a regulation and/or procedures, and the Board approves regulations and/or procedures specific to this source category; and

(B) retail gasoline transfer and dispensing facilities as defined in District Rule 461, until the Executive Officer, as quickly as practicable, can provide an analysis of emissions data from gasoline dispensing activities to the Governing Board, and the Board approves regulations and/or procedures, if needed, specific to this industry.

(f) Emissions Calculations

(1) For the purpose of determining MICR and cancer burden due to a new or relocated permit unit pursuant to this rule, the total Toxic Air Contaminant emissions from the new or relocated permit unit shall be calculated on an annual basis from permit conditions which directly limit the emissions or, when no such conditions are imposed, from:

(A) the maximum rated capacity;

(B) the maximum possible annual hours of operation;

(C) the maximum annual emissions; and

(D) the physical characteristics of the materials processed.

(2) For the purpose of determining chronic HI due to a new or relocated permit unit pursuant to this rule, the total emissions from a permit unit shall be

calculated on an annual average basis from permit conditions which directly limit the emissions or, when no such conditions are imposed, from:

(A) the maximum rated capacity;

(B) the annual average hours of operation;

(C) the annual average emissions; and

(D) the physical characteristics of the materials processed.

(3) For the purpose of determining MICR, cancer burden and chronic HI due to a modified permit unit pursuant to this rule, the increase in emissions from the modified permit unit shall be calculated based on the difference between the total permitted emissions after the modification, calculated pursuant to the criteria established in subparagraphs (f)(1)(A), (B), (C), and (D), and:

(A) the total permitted emissions prior to the modification as stated in the permit conditions; or

(B) if there are no existing permit conditions that limit emissions, the average annual emissions which have occurred during the two-year period immediately preceding the date of the complete permit application for modification or other appropriate period determined by the Executive Officer to be representative of a permit unit's operation; or

(C) for modification of any source installed prior to October 8, 1976, resulting from the addition of air pollution controls installed solely to reduce the issuance of air contaminants, emission shall be calculated from permit conditions which directly limit the emissions or, when no such conditions are imposed, from:

(i) the maximum rated capacity; and

(ii) the maximum proposed daily hours of operation; and

(iii) the physical characteristics of the materials processed.

(4) For the purpose of determining acute HI due to a new, relocated or modified permit unit pursuant to this rule, the total emissions from a permit unit shall be calculated on a maximum hourly basis from permit conditions which directly limit the emissions or, when no such conditions exist, from:

(A) the maximum rated capacity;

(B) the maximum hourly emissions; and

(C) the physical characteristics of the materials processed.

(5) De Minimus Values

Any permit unit with values at or below the screening levels as specified in the procedures for determining health risks under this rule, published pursuant to paragraph (e)(1), shall be deemed in compliance with the requirements of subdivision (d).

(g) Exemptions

(1) The requirements of subdivision (d) shall not apply to:

(A) Permit Renewal or Change of Ownership

Any permit unit which is in continuous operation, without modification or change in operating conditions, for which a new permit to operate is required solely because of permit renewal or change of ownership.

(B) Modification with No Increase in Risk

A modification of a permit unit that causes a reduction or no increase in the cancer burden, MICR or acute or chronic HI at any receptor location.

(C) Functionally Identical Replacement

A permit unit replacing a functionally identical permit unit, provided there is no increase in maximum rating or increase in emissions of any toxic air contaminants. For replacement of dry cleaning permit units only, provided there is no increase in any toxic air contaminants.

(D) Equipment Previously Exempt Under Rule 219

Equipment which previously did not require a written permit pursuant to Rule 219 that is no longer exempt, provided that the equipment was installed prior to the Rule 219 amendment eliminating the exemption and a complete application for the permit is received within one (1) year after the Rule 219 amendment removing the exemption.

(E) Modifications to Terminate Research Projects

Modifications restoring the previous permit conditions of a permit unit, provided that: the applicant demonstrates that the previous permit conditions were modified solely for the purpose of installing innovative control equipment as part of a demonstration or investigation designed to advance the state of the art with regard to controlling emissions of toxic air contaminants; the emission

reductions achieved by the demonstration project are not used for permitting any equipment with emission increases under the contemporaneous emission reduction exemption as specified in paragraph (g)(2); the demonstration project is completed within two (2) years; and a complete application is submitted no later than two (2) years after the date of issuance of the permit which modified the conditions of the previous permit for the purpose of the demonstration or investigation.

(F) Emergency Internal Combustion Engines

Emergency internal combustion engines that are exempted under Rule 1304.

(G) Wood Product Stripping

Wood product stripping permit units, provided that the risk increases due to emissions from the permit unit owned or operated by the applicant for which complete applications were submitted on or after July 10, 1998 will not exceed a MICR of 100 in one million (100×10^{-6}) or a total acute or chronic hazard index of five (5) at any receptor location. This exemption shall not apply to permit applications received after January 10, 2000, or sooner if the Executive Officer makes a determination that T-BACT is available to enable compliance with the requirements of paragraphs (d)(1), (d)(2) and (d)(3).

(H) Gasoline Transfer and Dispensing Facilities

For gasoline transfer and dispensing facilities, as defined in Rule 461 – Gasoline Transfer and Dispensing, the Executive Officer shall not, for the purposes of paragraphs (d)(1) through (d)(4), consider the risk contribution of methyl tert-butyl ether for any gasoline transfer and dispensing permit applications deemed complete on or before December 31, 2003. If the state of California extends the phase-out requirement for methyl tert-butyl ether as an oxygenate in gasoline, the limited time exemption shall be extended to that expiration date or December 31, 2004, whichever is sooner.

(2) Contemporaneous Risk Reduction

(A) Paragraph (d)(1) shall not apply if the applicant demonstrates that a contemporaneous risk reduction resulting in a decrease in emissions will occur such that both of the following conditions are met:

(i) no receptor location will experience a total increase in MICR of greater than one in one million (1.0×10^{-6}) due to the cumulative impact of both the permit unit and the contemporaneous risk reduction; and

(ii) the contemporaneous risk reduction occurs within 100 meters of the permit unit.

T-BACT shall be used on permit units exempted under this subparagraph if the MICR from the permit unit exceeds one in one million (1.0×10^{-6}).

(B) The requirements of paragraphs (d)(2) and (d)(3) shall not apply if the applicant substantiates to the satisfaction of the Executive Officer that a contemporaneous risk reduction will occur such that any increase in individual substance acute or chronic HI from the permit unit exceeding 1.0 is mitigated with an equal or greater decrease in the same individual substance acute or chronic HI, respectively, from the contemporaneous risk reduction such that both of the following conditions are met:

(i) no receptor location will experience an increase in total acute or chronic HI of more than 1.0 due to the cumulative impact of both the permit unit and the contemporaneous risk reduction; and

(ii) the contemporaneous risk reduction occurs within 100 meters of the permit unit.

(3) Alternate Hazard Index Levels

The requirements of paragraphs (d)(2) and (d)(3) shall not apply if the applicant substantiates to the satisfaction of the Executive Officer that at all receptor locations and for every target organ system, the total chronic and acute HI level resulting from emissions from the new, modified or relocated permit unit owned or operated by the applicant for which applications were submitted on or after July 10, 1998 shall not exceed alternate HI levels which are determined by the Executive Officer in consultation with the Office of Environmental Health Hazard Assessment to be protective against adverse health effects. No alternate HI level shall exceed 10.

TABLE I
TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
75-07-0	acetaldehyde	December 7, 1990	September 8, 1998	September 10, 2010
60-35-5	acetamide	January 8, 1999		
107-02-8	acrolein		June 15, 2001	August 13, 1999
79-06-1	acrylamide (or propenamide)	December 7, 1990	**	
79-10-7	acrylic acid		*	August 13, 1999
107-13-1	acrylonitrile (or vinyl cyanide)	December 7, 1990	May 3, 2002	
107-05-1	allyl chloride	January 8, 1999		
117-79-3	aminoanthraquinone, 2-	January 8, 1999		
7664-41-7	ammonia		August 18, 2000	August 13, 1999
62-53-3	aniline	January 8, 1999		
7440-38-2	**arsenic and arsenic compounds (inorganic)** including, but not limited to: arsenic compounds (inorganic)	December 7, 1990	June 15, 2001	August 13, 1999
7784-42-1	arsine		September 10, 2010	August 13, 1999
1332-21-4	asbestos	June 1, 1990		
71-43-2	benzene (including benzene from gasoline)	June 1, 1990	August 18, 2000	August 13, 1999
92-87-5	benzidine (and its salts)	December 7, 1990	**	
100-44-7	benzyl chloride	September 8, 1998	**	August 13, 1999
7440-41-7	beryllium and beryllium compounds	December 7, 1990	May 3, 2002	
111-44-4	bis(2-chloroethyl)ether (DCEE)	December 7, 1990		
117-81-7	bis(2-ethylhexyl)phthalate (DEHP)	September 8, 1998	**	

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
542-88-1	bis(chloromethyl)ether	December 7, 1990		
7789-30-2	bromine pentafluoride		*	
106-99-0	butadiene, 1,3-	December 7, 1990	June 15, 2001	
7440-43-9	cadmium and cadmium compounds	June 1, 1990	June 15, 2001	
75-15-0	carbon disulfide		May 3, 2002	August 13, 1999
56-23-5	carbon tetrachloride (or tetrachloromethane)	June 1, 1990	June 15, 2001	August 13, 1999
7782-50-5	chlorine		August 18, 2000	August 13, 1999
10049-04-4	chlorine dioxide		June 15, 2001	
95-83-0	chloro-o-phenylenediamine, 4-	January 8, 1999		
95-69-2	chloro-o-toluidine, p-	January 8, 1999		
108-90-7	chlorobenzene		June 15, 2001	
	chlorofluorocarbons			
75-43-4	dichlorodifluoromethane (CFC-12)		*	
75-69-4	trichlorofluoromethane (CFC-11)		*	
76-13-1	trichlorotrifluoroethane (CFC-113)		*	
67-66-3	chloroform (trichloromethane)	December 7, 1990	August 18, 2000	August 13, 1999
	Chlorophenols			
95-57-8	chlorophenol, 2-		*	
88-06-2	trichlorophenol, 2,4,6-	December 7, 1990		
	tetrachlorophenols (TECPH)		*	
87-86-5	pentachlorophenol	September 8, 1998	**	

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
76-06-2	chloropicrin		May 3, 2002	August 13, 1999
126-99-8	chloroprene		**	
18540-29-9	**chromium (hexavalent) and chromium compounds**	June 1, 1990	June 15, 2001	
	including, but not limited to:			
7758-97-6	lead chromate	September 8, 1998	**	
1333-82-0	chromic trioxide		June 15, 2001	
7440-50-8	copper and copper compounds		*	August 13, 1999
120-71-8	cresidine, p-	January 8, 1999		
1319-77-3	**cresols/cresylic acid (all isomers and mixture)**		June 15, 2001	
108-39-4	cresol, m-		June 15, 2001	
95-48-7	cresol, o-		June 15, 2001	
106-44-5	cresol, p-		June 15, 2001	
135-20-6	cupferron	January 8, 1999		
	dialkylnitrosamines			
924-16-3	nitrosodi-n-butylamine, n-	December 7, 1990		
621-64-7	nitrosodi-n-propylamine, n-	September 8, 1998		
55-18-5	nitrosodiethylamine, n-	December 7, 1990		
62-75-9	nitrosodimethylamine, n-	December 7, 1990		
10595-95-6	nitrosomethylethylamine, n-	September 8, 1998		

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
615-05-4	diaminoanisole, 2,4- (sulfate)	January 8, 1999		
95-80-7	diaminotoluene, 2,4-	January 8, 1999		
	dibenzo-p-dioxins (chlorinated)			
1746-01-6	tetrachlorodibenzo-p-dioxin, 2,3,7,8-	June 1, 1990	August 18, 2000	
40321-76-4	pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	June 1, 1990	August 18, 2000	
39227-28-6	hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	June 1, 1990	August 18, 2000	
57653-85-7	hexachlorodibenzo-p-dioxin, 1,2,3,6,7,8-	June 1, 1990	August 18, 2000	
19408-74-3	hexachlorodibenzo-p-dioxin, 1,2,3,7,8,9-	June 1, 1990	August 18, 2000	
35822-46-9	heptachlorodibenzo-p-dioxin,	June 1, 1990	August 18, 2000	
3268-87-9	1,2,3,4,6,7,8- octachlorodibenzo-p-dioxin,	June 1, 1990	August 18, 2000	
41903-57-5	1,2,3,4,5,6,7,8-	June 1, 1990	August 18, 2000	
36088-22-9	total tetrachlorodibenzo-p-dioxin	June 1, 1990	August 18, 2000	
34465-46-8	total pentachlorodibenzo-p-dioxin	June 1, 1990	August 18, 2000	
37871-00-4	total hexachlorodibenzo-p-dioxin	June 1, 1990	August 18, 2000	
	total heptachlorodibenzo-p-dioxin			
	total dioxins, with individual isomers reported	June 1, 1990	August 18, 2000	
	total dioxins, without individual isomers reported	June 1, 1990	August 18, 2000	
	dibenzofurans (chlorinated)			
51207-31-9	tetrachlorodibenzofuran, 2,3,7,8-	June 1, 1990	August 18, 2000	

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
57117-41-6	pentachlorodibenzofuran, 1,2,3,7,8-	June 1, 1990	August 18, 2000	
57117-31-4	pentachlorodibenzofuran, 2,3,4,7,8-	June 1, 1990	August 18, 2000	
70648-26-9	hexachlorodibenzofuran, 1,2,3,4,7,8-	June 1, 1990	August 18, 2000	
57117-44-9	hexachlorodibenzofuran, 1,2,3,6,7,8-	June 1, 1990	August 18, 2000	
72918-21-9	hexachlorodibenzofuran, 1,2,3,7,8,9-	June 1, 1990	August 18, 2000	
60851-34-5	hexachlorodibenzofuran, 2,3,4,6,7,8-	June 1, 1990	August 18, 2000	
67562-39-4	heptachlorodibenzofuran, 1,2,3,4,6,7,8-	June 1, 1990	August 18, 2000	
55673-89-7	heptachlorodibenzofuran, 1,2,3,4,7,8,9-	June 1, 1990	August 18, 2000	
39001-02-0	octachlorodibenzofuran, 1,2,3,4,5,6,7,8	June 1, 1990	August 18, 2000	
55722-27-5	total tetrachlorodibenzofuran	June 1, 1990	August 18, 2000	
30402-15-4	total pentachlorodibenzofuran	June 1, 1990	August 18, 2000	
55684-94-1	total hexachlorodibenzofuran	June 1, 1990	August 18, 2000	
38998-75-3	total heptachlorodibenzofuran	June 1, 1990	August 18, 2000	
96-12-8	dibromo-3-chloropropane, 1,2- (DBCP)	September 8, 1998	**	
106-46-7	dichlorobenzene, 1,4- (or p-dichlorobenzene)	September 8, 1998	June 15, 2001	
91-94-1	dichlorobenzidine, 3,3	December 7, 1990		
75-34-3	dichloroethane, 1,1-	January 8, 1999		
75-35-4	dichloroethylene, 1,1-		June 15, 2001	
9901 (emittant ID)	diesel PM – diesel particulate matter from diesel-fueled internal combustion engine exhaust	March 7, 2008	March 7, 2008	

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
111-42-2	diethanolamine		May 3, 2002	
60-11-7	dimethylaminoazobenzene, p-	January 8, 1999		
68-12-2	dimethylformamide (N,N-)		June 15, 2001	
121-14-2	dinitrotoluene, 2,4-	December 7, 1990		
123-91-1	dioxane, 1,4- (or 1,4-diethylene dioxide)	December 7, 1990	August 18, 2000	August 13, 1999
106-89-8	epichlorohydrin (or 1-chloro-2,3-epoxypropane)	December 7, 1990	June 15, 2001	August 13, 1999
106-88-7	epoxybutane,1,2-		June 15, 2001	
140-88-5	ethyl acrylate		*	
100-41-4	ethyl benzene	June 5, 2009	August 18, 2000	
75-00-3	ethyl chloride (or chloroethane)		August 18, 2000	
106-93-4	ethylene dibromide (or 1,2-dibromoethane)	June 1, 1990	May 3, 2002	
107-06-2	ethylene dichloride (or 1,2-dichloroethane)	June 1, 1990	June 15, 2001	
75-21-8	ethylene oxide (or 1,2-epoxyethane)	June 1, 1990	June 15, 2001	
96-45-7	ethylene thiourea	January 8, 1999		
1101	Fluorides (except hydrogen fluoride, listed separately below)		September 10, 2010	
50-00-0	formaldehyde	December 7, 1990	August 18, 2000	August 13, 1999
	gasoline vapors		*	
111-30-8	glutaraldehyde		June 15, 2001	
	glycol ethers (and their acetates)			

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
107-21-1	ethylene glycol		August 18, 2000	
111-76-2	ethylene glycol butyl ether		*	August 13, 1999
110-80-5	ethylene glycol ethyl ether		August 18, 2000	February 10, 1999
111-15-9	ethylene glycol ethyl ether acetate		August 18, 2000	August 13, 1999
109-86-4	ethylene glycol methyl ether		August 18, 2000	August 13, 1999
110-49-6	ethylene glycol methyl ether acetate		August 18, 2000	
118-74-1	hexachlorobenzene	December 7, 1990	**	
608-73-1	**hexachlorocyclohexanes (mixed or technical grade)**	December 7, 1990	**	
58-89-9	hexachlorocyclohexane, gamma- (lindane)	September 8, 1998	**	
77-47-4	hexachlorocyclopentadiene		*	
110-54-3	hexane		August 18, 2000	
302-01-2	hydrazine	September 8, 1998	June 15, 2001	
122-66-7	hydrazobenzene (or 1,2-diphenylhydrazine)	December 7, 1990		
7647-01-0	hydrochloric acid (or hydrogen chloride)		August 18, 2000	August 13, 1999
7664-39-3	hydrofluoric acid (or hydrogen fluoride)		September 10, 2010	August 13, 1999
10035-10-6	hydrogen bromide (HBR)		*	
74-90-8	hydrogen cyanide		August 18, 2000	August 13, 1999
7783-06-4	hydrogen sulfide		August 18, 2000	February 10, 1999
7783-07-5	hydrogen selenide			August 13, 1999

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
	isocyanates			
624-83-9	methyl isocyanate		May 3, 2002	
78-59-1	isophrone		May 3, 2002	
67-63-0	isopropyl alcohol		August 18, 2000	August 13, 1999
7439-92-1	**lead and lead compounds (inorganic, including elemental lead)** including, but not limited to:	September 8, 1998	**	
	lead compounds (inorganic)	September 8, 1998	**	
301-04-2	lead acetate	September 8, 1998	**	
7758-97-6	lead chromate	September 8, 1998	**	
7446-27-7	lead phosphate	September 8, 1998	**	
1335-32-6	lead subacetate	September 8, 1998	**	
	lead compounds (other than inorganic)	September 8, 1998	**	
108-31-6	maleic anhydride		May 3, 2002	
7439-96-5	manganese and manganese compounds		August 18, 2000	
7439-97-6	**mercury and mercury compounds (inorganic)** including, but not limited to:		August 18, 2000	August 13, 1999
7487-94-7	mercuric chloride		August 18, 2000	
593-74-8	methyl mercury		August 18, 2000	

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
67-56-1	methanol (methyl alcohol)		August 18, 2000	August 13, 1999
74-83-9	methyl bromide (or bromomethane)		August 18, 2000	August 13, 1999
71-55-6	methyl chloroform (or 1,1,1-trichloroethane)		August 18, 2000	August 13, 1999
78-93-3	methyl ethyl ketone		*	August 13, 1999
80-62-6	methyl methacrylate		*	
1634-04-4	methyl tert-butyl ether	May 2, 2003	August 18, 2000	
101-14-4	methylene bis(2-chloroaniline), 4,4- (MOCA)	January 8, 1999		
75-09-2	methylene chloride (or dichloromethane)	June 1, 1990	August 18, 2000	August 13, 1999
101-77-9	methylene dianiline, 4,4'- (and its dichloride)	September 8, 1998	May 3, 2002	
101-68-8	methylene phenyl diisocyanate		June 15, 2001	
1135	mineral fibers (other than man-made)		*	
90-94-8	michler's ketone	January 8, 1999		
7440-02-0	**nickel and nickel compounds:**	March 12, 1999	August 18, 2000	August 13, 1999
	including, but not limited to:			
373-02-4	nickel acetate	March 12, 1999	August 18, 2000	August 13, 1999
3333-67-3	nickel carbonate	March 12, 1999	August 18, 2000	August 13, 1999
13463-39-3	nickel carbonyl	March 12, 1999	August 18, 2000	August 13, 1999
12054-48-7	nickel hydroxide	March 12, 1999	August 18, 2000	August 13, 1999
1313-99-1	nickel oxide	March 12, 1999	August 18, 2000	August 13, 1999
12035-72-2	nickel subsulfide	December 7, 1990	August 18, 2000	August 13, 1999
1271-28-9	nickelocene	March 12, 1999	August 18, 2000	August 13, 1999

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TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
	refinery dust from the pyrometallurgical process	December 7, 1990	August 18, 2000	August 13, 1999
7697-37-2	nitric acid		*	August 13, 1999
98-95-3	nitrobenzene		*	
79-46-9	nitropropane, 2-		*	
759-73-9	nitroso-n-ethylurea, n-	December 7, 1990		
684-93-5	nitroso-n-methylurea, n-	December 7, 1990		
86-30-6	nitrosodiphenylamine, n-	December 7, 1990		
156-10-5	nitrosodiphenylamine, p-	September 8, 1998		
59-89-2	nitrosomorpholine, n-	January 8, 1999		
100-75-4	nitrosopiperidine, n-	January 8, 1999		
930-55-2	nitrosopyrrolidine, n-	December 7, 1990		
108171-26-2	paraffins, chlorinated (average chain length, c12; approx. 60% cl by weight)	January 8, 1999		
127-18-4	perchloroethylene (or tetrachloroethylene)	September 8, 1998	September 8, 1998	August 13, 1999
108-95-2	phenol		August 18, 2000	August 13, 1999
75-44-5	phosgene		*	August 13, 1999
7723-14-0 7803-51-2	**phosphorus and phosphorus compounds** phosphine		* February 7, 2003	
7664-38-2	phosphoric acid		August 18, 2000	
85-44-9	phthalic anhydride		June 15, 2001	

TABLE I TOXIC AIR CONTAMINANTS				
CAS #	**SUBSTANCE**	**EFFECTIVE DATE CANCER**	**EFFECTIVE DATE CHRONIC**	**EFFECTIVE DATE ACUTE**
1336-36-3	**polychlorinated biphenyls (PCBs)**	December 7, 1990	**	
	3,3',4,4' Tetrachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	3,4,4',5 Tetrachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3,3',4,4' Pentachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3,4,4',5 Pentachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3',4,4',5 Pentachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2',3,4,4',5 Pentachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	3,3',4,4',5 Pentachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3,3',4,4',5 Hexachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3,3',4,4',5' Hexachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3',4,4',5.5' Hexachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	3,3',4,4',5,5' Hexachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	2,3,3'4,4',5,5' Heptachlorobiphenyl	March 4, 2005***	March 4, 2005***	
	polycyclic aromatic hydrocarbons (PAHs)			
56-55-3	benz[a]anthracene	December 7, 1990		
50-32-8	benzo[a]pyrene	December 7, 1990		
205-99-2	benzo[b]fluoranthene	December 7, 1990		
205-82-3	benzo[j]fluoranthene	January 8, 1999		
207-08-9	benzo[k]fluoranthene	December 7, 1990		
218-01-9	chrysene	December 7, 1990		
226-36-8	dibenz[a,h]acridine	January 8, 1999		

TABLE I
TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
224-42-0	dibenz[a,j]acridine	January 8, 1999		
53-70-3	dibenz[a,h]anthracene	December 7, 1990		
192-65-4	dibenzo[a,e]pyrene	January 8, 1999		
189-64-0	dibenzo[a,h]pyrene	January 8, 1999		
189-55-9	dibenzo[a,i]pyrene	January 8, 1999		
191-30-0	dibenzo[a,l]pyrene	January 8, 1999		
194-59-2	dibenzo[c,g]carbazole, 7h-	January 8, 1999		
57-97-6	dimethylbenz[a]anthracene, 7,12-	January 8, 1999		
42397-64-8	dinitropyrene, 1,6-	January 8, 1999		
42397-65-9	dinitropyrene, 1,8-	January 8, 1999		
193-39-5	indeno[1,2,3-cd]pyrene	December 7, 1990		
56-49-5	methylcholanthrene, 3-	January 8, 1999		
3697-24-3	methylchrysene, 5-	January 8, 1999		
91-20-3	naphthalene	March 4, 2005***	August 18, 2000	
602-87-9	nitroacenaphthene, 5-	January 8, 1999		
7496-02-8	nitrochrysene, 6-	January 8, 1999		
607-57-8	nitrofluorene, 2-	January 8, 1999		
5522-43-0	nitropyrene, 1-	January 8, 1999		
57835-92-4	nitropyrene, 4-	January 8, 1999		
	polycyclic aromatic hydrocarbons (PAHs), total	September 8, 1998		

TABLE I
TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
7758-01-2	potassium bromate	January 8, 1999		
1120-71-4	propane sultone, 1,3-	January 8, 1999		
115-07-1	propylene		August 18, 2000	
107-98-2	propylene glycol methyl ether		August 18, 2000	
75-56-9	propylene oxide (or 1,2-epoxy propane)	September 8, 1998	February 23, 2000	August 13, 1999
7782-49-2	**selenium and selenium compounds** other than hydrogen selenide		May 3, 2002	
1310-73-2	sodium hydroxide		*	August 13, 1999
100-42-5	styrene (or vinyl benzene)		August 18, 2000	August 13, 1999
7664-93-9	sulfuric acid (and oleum)		May 3, 2002	August 13, 1999
79-34-5	tetrachloroethane, 1,1,2,2-	January 8, 1999		
62-55-5	thioacetamide	January 8, 1999		
108-88-3	toluene (or methyl benzene)		August 18, 2000	August 13, 1999
	toluene diisocyanates			
584-84-9	toluene-2,4-diisocyanate	September 8, 1998	June 15, 2001	
91-08-7	toluene-2,6-diisocyanate	September 8, 1998	June 15, 2001	
79-00-5	trichloroethane, 1,1,2-	January 8, 1999		
79-01-6	trichloroethylene	December 7, 1990	August 18, 2000	
121-44-8	triethylamine		February 7, 2003	August 13, 1999
51-79-6	urethane (or ethyl carbamate)	September 8, 1998		
1314-62-1	vanadium pentoxide			August 13, 1999

TABLE I
TOXIC AIR CONTAMINANTS

CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
108-05-4	vinyl acetate		May 3, 2002	
75-01-4	vinyl chloride (or chloroethylene)	December 7, 1990	**	August 13, 1999
75-35-4	vinylidene chloride		*	
1330-20-7	**xylenes (isomers and mixture)**		August 18, 2000	August 13, 1999
108-38-3	xylene, m-		August 18, 2000	August 13, 1999
95-47-6	xylene, o-		August 18, 2000	August 13, 1999
106-42-3	xylene, p-		August 18, 2000	August 13, 1999
7440-66-6	**zinc and zinc compounds**		*	
	including, but not limited to:			
1314-13-2	zinc oxide		*	

* Compounds not classified as carcinogenic, but have chronic risk values proposed by OEHHA that have not yet been finalized. The effective date is the date the Scientific Review Panel approves the chronic risk value.
** Compounds are classified as carcinogenic, but have chronic risk values proposed by OEHHA that have not yet been finalized. The effective date for use of chronic risk values is the date the Scientific Review Panel approves the chronic risk value.
*** Effective date for these risk values will be March 4, 2005 or the date of implementation of the applicable most recent version of Risk Assessment Procedures for Rules 1401, 1401.1 and 212, whichever is later.

TABLE II
TOXIC AIR CONTAMINANTS WITH PROPOSED RISK VALUES

CAS #	SUBSTANCE
79-10-7	acrylic acid
107-05-1	allyl chloride
7783-20-2	ammonium sulfate
62-53-3	Aniline
1309-64-4	antimony trioxide
	arsenic compounds (other than inorganic)
532-27-4	chloroacetophenone, 2-
75-45-6	chlorodifluoromethane (HCFC-22)
7440-48-4	cobalt and cobalt compounds
74-85-1	Ethylene
96-45-7	ethylene thiourea
	fluorides and fluoride compounds
87-68-3	hexachlorobutadiene
67-72-1	hexachloroethane
822-06-0	hexamethylene-1,6-diisocyanate
78-93-3	methyl ethyl ketone (or 2-butanone)
7697-37-2	nitric acid
156-10-5	nitrosodiphenylamine, p-
7440-22-4	silver and silver compounds
96-09-3	styrene oxide
79-00-5	trichloroethane, 1,1,2-
593-60-2	vinyl bromide

4. Visible Emissions Nuisance

COMPLIANCE WITH SOURCE-SPECIFIC PERMIT CONDITIONS AND RULE REQUIREMENTS IS ONLY PART OF THE CLEAN AIR PICTURE

Most AQMD rules and permit conditions are designed to limit or control emissions from specific types of equipment and/or processes. But compliance with these source-specific permit conditions and rules requirements is only part of the clean air picture.

Sources which create **visible emissions** or a **public nuisance** may be cited for failure to comply with AQMD Rule 401 (*Visible Emissions*) or Rule 402 (*Public Nuisance*) even when they are in full compliance with all other applicable permit conditions and rule requirements.

Visible emissions violations can occur when a source produces uncontrolled smoke, dust, or other particulate matter that reduces visibility and impedes air quality. AQMD inspectors trained to evaluate visible emissions determine whether the relative opacity (density) of airborne particulate matter is great enough to warrant enforcement action.

Public nuisance violations can occur when a number of individuals complain to AQMD of odors, paint overspray, or other bothersome conditions that appear to be related to the operation of a business in the neighboring vicinity. An AQMD inspector may be dispatched to investigate such complaints in order to determine whether an alleged source is jeopardizing the public health, safety, or welfare, or creating local property damage.

Owners and operators of businesses with a high potential for generating odors, overspray, smoke, or other "fugitive emissions" that can threaten public health and welfare should take special precautions to avoid creating visible emissions or a public nuisance.

Using a paint spray booth or other equipment designed to capture volatile emissions, operating during hours when fewer people are likely to be affected by odors and fumes, and ensuring that pollution control equipment is well-maintained and functioning properly are among the many ways in which instances of non-compliance can be avoided.

(Adopted February 4, 1977)(Amended April 1, 1977)(Amended August 4, 1978)
(Amended September 7, 1979)(Amended February 1, 1980)(Amended July 11, 1980)
(Amended October 15, 1982)(Amended March 2, 1984)(Amended February 5, 1988)
(Amended April 7, 1989)(Amended September 11, 1998)
(Amended November 9, 2001)

RULE 401. VISIBLE EMISSIONS

(a) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) KEROSENE FUEL is petroleum distillate fuel meeting diesel grade 1-D per ASTM D975-78, fuel oil grade No. 1 per ASTM D396-79, or kerosene by conventional commercial specifications.

(2) AN APPROVED SMOKE-REDUCING FUEL ADDITIVE is as approved by the Executive Officer.

(3) A SYNTHETIC ENGINE LUBRICATING OIL is as approved by the Executive Officer.

(b) Requirements

(1) A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(A) As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(B) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(1)(A) of this rule.

(2) Not withstanding the provisions of paragraph (b)(1) of this rule, a person shall not discharge into the atmosphere from a commercial charbroiler, excluding those operating with control equipment and those which are chain-driven, or equipment for melting, heating, or holding asphalt or coal tar pitch for on-site roof construction or repair; any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(A) As dark or darker in shade as that designated No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(B) Of such an opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(2)(A) of this rule.

(3) Notwithstanding the provisions of paragraph (b)(1) of this rule, a person shall not discharge into the atmosphere from any diesel pile-driving hammer, operating exclusively using kerosene fuel, containing approved smoke-reducing fuel additives, as the sole fuel, and using only synthetic engine lubrication oil, or other method deemed technologically and economically feasible by the Executive Officer, any air contaminant for a period or periods aggregating more than four minutes during the driving of a single pile which is:

(A) As dark or darker in shade as that designated No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(B) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(3)(A) of this rule.

(c) Exemptions

(1) The provisions of this rule shall not apply to the following operations:

(A) Asphalt pavement heater operations;

(B) Abrasive blasting operations;

(C) The use of visible emission generating equipment in training sessions conducted by governmental agencies necessary for certifying persons to evaluate visible emissions for compliance with this rule and with the California Health and Safety Code, Section 41704 (l).

(D) Visible emissions from ships which perform emergency boiler shutdowns, tests required by governmental agencies or maneuvers for safety purposes;

(E) Agricultural operations.

(2) The provisions of paragraph (b)(2) shall not apply to a commercial charbroiler, as described in paragraph (b)(2), on or after November 9, 2005, and thereafter the provisions of paragraph (b)(1) shall apply to such equipment.

(Adopted May 7, 1976)

RULE 402. NUISANCE

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

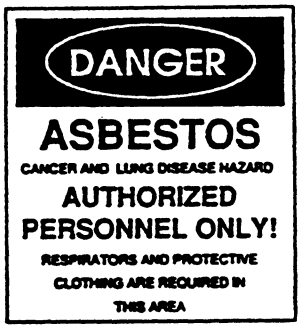
5. Landfills

FACT Sheet

California Department of Health Services
Toxic Substances Control Division
Alternative Technology Section

March 1989

Asbestos Handling, Transport and Disposal



This Fact Sheet was produced by the Waste Evaluation Unit to assist generators throughout the State of California

Classification

The Department of Health Services (DHS) has classified friable, finely divided, and powdered wastes containing greater than one percent (1.0%) asbestos as hazardous waste. Asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite. A "friable" waste is one which can be reduced to a powder or dust under hand pressure when dry.

Non-friable, asbestos-containing wastes are considered to be nonhazardous (regardless of their asbestos content), and are not subject to regulation under Title 22, Division 4, Chapter 30 of the California Code of Regulations (CCR). The management of such wastes remains subject to any requirements or restrictions which may be imposed by other regulatory agencies operating under separate authority. The DHS classification standard is found in Section 66699 of Title 22, CCR. Asbestos is not presently regulated as a hazardous waste under the Resource Conservation and Recovery Act (RCRA), and therefore, is considered to be a "non-RCRA" waste.

Test Method

Testing for asbestos in bulk samples must be done using the polarized light microscopy method described in the Federal Register, Volume 47, Number 103, Appendix A, pages 23376-23389, May 27, 1982 (also published in Title 40, Code of Federal Regulations (40 CFR), Part 763 as "Appendix A to Subpart F - Interim Method of the Determination of Asbestos in Bulk Insulation Samples". Asbestos quantitation is performed by a point-counting procedure or equivalent estimation method. Point-counting provides a determination of the ***area percent asbestos.*** Reliable conversion of area percent to percent of dry weight is not feasible unless the specific gravities and relative volumes of the materials are known.

Pursuant to Section 25198(a) of the California Health and Safety Code, testing for any purpose under the Hazardous Waste Control Law must be performed by laboratories which are certified for hazardous waste testing according to the requirements and procedures of Article 33, CCR. The Department certifies laboratories for bulk asbestos testing, but does not certify laboratories for air testing at this time. Current costs for bulk asbestos testing range from $25 to $100 per sample. The average cost is $50 per sample.

HANDLING AND TRANSPORT

Packaging

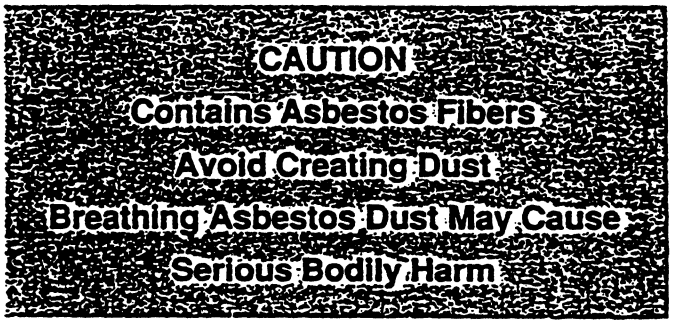
Asbestos wastes must be contained and transported in one of the following ways:

In sealed, leak-tight, and non-returnable containers (e.g. plastic bags of 6-millimeter (6-mil) thickness, cartons, drums, or cans) from which the fibers cannot escape. Wastes within the container must be adequately wetted to prevent blowing of fibers in case the container is broken (see 40 CFR 61.152) or

For bulk wastes that will not fit into containers without additional breaking, place wastes into sealed and leak-tight wrapping after wetting. If the wastes are to be placed directly in trailers or drop-boxes, the trailer or drop-box should be lined with plastic sheeting. The wastes should be wetted to prevent blowing of fibers in case the wrapping is broken. The wrapping should be sealed (e.g. with duct tape), and the trailer or drop-box should be covered with a tarp (see Section 66545, CFR).

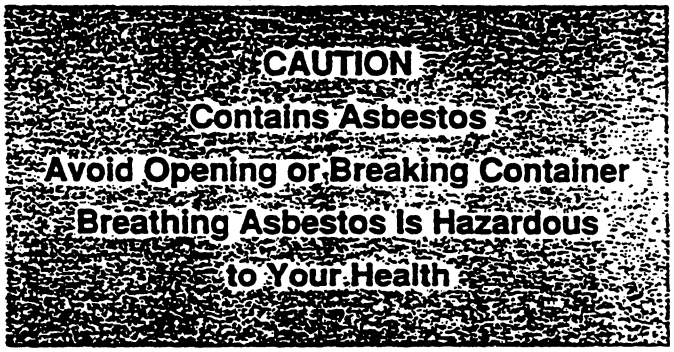
Labels

Caution labels are required on each container or wrapping must be in conspicuous legible lettering which spells out one of the following or equivalent warnings:



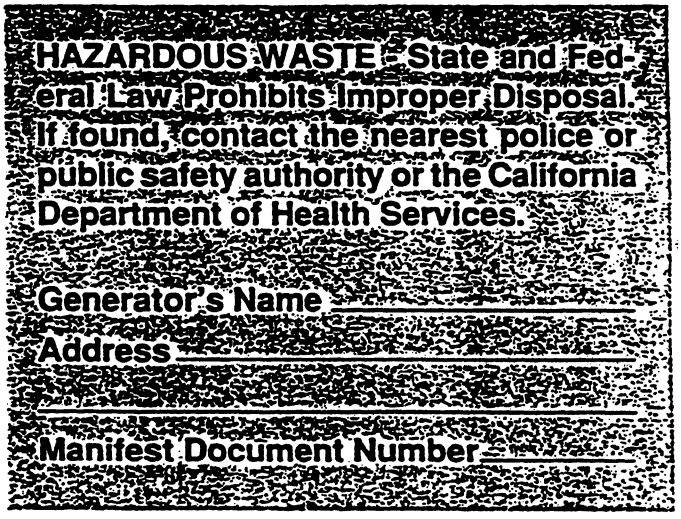
[Source: Section 5208, Title 8 - California Code of Regulations]

OR



[Source: NESHAP, 40 CFR 61.152(b)(1)(iv) (7/1/86 Edition)]

In addition to this warning requirement, Section 66504 of Title 22, CCR requires that hazardous waste containers of 110 gallons or less capacity be marked with the following words and information displayed in accordance with the requirements of 49 CFR 172.3 as amended November 1, 1983:



Transport

In California, asbestos wastes totalling more than 50 lbs. must be transported by a registered hazardous waste hauler to an approved treatment, storage, or disposal facility. Pursuant to Section 25163(c) of the California Health and Safety Code, persons generating and transporting less than 50 lbs. of a hazardous waste to a permitted hazardous waste facility are exempt from this requirement (and the requirements concerning possession of the manifest while transporting hazardous waste) upon meeting all of the following conditions:

- The hazardous wastes are transported in closed containers and packed in a manner that prevents the containers from tipping, spilling, or breaking during the transporting.
- Different hazardous waste materials are not mixed within a container during the transporting.
- The person transporting the hazardous waste is the producer of that hazardous waste, and the person produces no more than 100 kilograms of hazardous waste in any month, and accumulates no more than 1000 kilograms at any one time.

Pursuant to 49 CFR 172.500, the U.S. Department of Transportation does not presently require placarding on transport vehicles for hazardous materials (such as asbestos wastes) which are classed as "Other Regulated Material" (ORM). Pursuant to 49 CFR 172.301, the proper D.O.T. shipping name and identification number must appear on all hazardous material containers of 110 gallons or less capacity. (This is the same shipping name and identification number which must appear on the manifest).

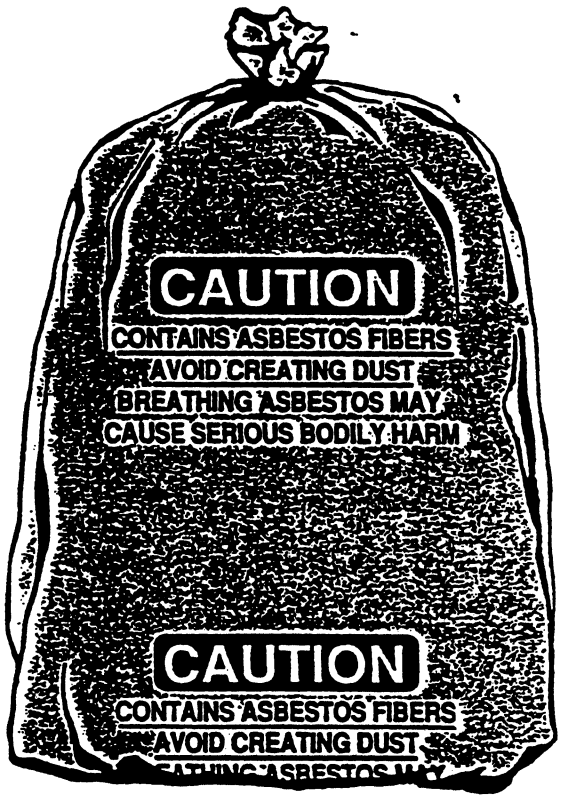
For further information regarding D.O.T. requirements contact the U.S. Department of Transportation, Division Office of Motor Carrier Safety:

Northern California - (916) 551-1300, Sacramento
Southern California - (818) 405-7110, El Monte

or the California Highway Patrol (CHP), Motor Carrier Safety Unit of the CHP Division Office nearest you (see telephone directory for local listing).

Manifests & Identification Numbers

Except as provided by Section 25163(c) of the Health and Safety Code, any hazardous wastes which are transported to a disposal site must be accompanied by a properly completed Uniform Hazardous Waste Manifest (Section 66472, CCR). To properly complete the manifest, the generator must obtain an EPA Identification (ID) number. ***Permanent ID numbers*** are issued to generators who routinely generate hazardous wastes. ***Provisional ID numbers and***



emergency ID numbers are issued for one-time only situations and are valid for 90 days. A special provisional number is issued for asbestos containing wastes generated in the course of residential removals. For further information about ID numbers; to obtain provisional or emergency numbers; or to obtain an application for a permanent ID number, contact the DHS at (916) 324-1781.

The generator and disposal site operator must, on a monthly basis, return a copy of each manifest used to the Department.

Disposal site operators send to:

Department of Health Services
Toxic Substances Control Division
P.O. Box 3000
Sacramento, CA 95812

Generators send to:

Department of Health Services
Toxic Substances Control Division
P.O. Box 400
Sacramento, CA 95802

For copies of blank manifests write to:

Department of Health Services
Toxic Substances Control Division
Attn: Manifest Order Unit
714/744 P Street
P.O. Box 942732
Sacramento, CA 94234-7320

Pursuant to changes published in the Federal Register (Vol. 51, No. 225, November 21, 1986, page 42175) and corrected in the Federal Register of February 17, 1987 (Vol 52, No. 31, page 4824) the proper U.S. DOT description for waste asbestos is:

RQ Hazardous Substance, Solid, N.O.S., ORM-E, NA 9188 (Asbestos)

DISPOSAL

Pursuant to Section 25143.7 of the Health and Safety Code, wastes containing asbestos may be disposed of at any landfill which has waste discharge requirements issued by a Regional Water Quality Control Board that allow the disposal of such waste, provided that the wastes are handled and disposed of in accordance with the Toxic Substances Control Act (P.L. 94-469) and all applicable laws and regulations. Provisions of the Toxic Substances Control Act (TSCA) are found in Title 40, Code of Federal Regulations, Part 763. Other applicable laws and regulations include the Clean Air Act's National Emission Standards for Hazardous Air Pollutants (NESHAP), and Title 22, California Code of Regulations, Division 4, Chapter 30 (Minimum Standards for the Management of Hazardous and Extremely Hazardous Wastes). The National Emission Standard for Asbestos is found in Title 40, Code of Federal Regulations, Part 61, Subpart M.

The Department does not mantain a list of disposal sites accepting asbestos waste. For information on disposal sites, contact the Regional Water Quality Control Board nearest you (see telephone directory for local listing).

Specific requirements for the operation of active and inactive disposal sites are found in Title 40, Code of Federal Regulations, Part 61, Subpart M. Additional guidance on disposal is found in the May 1985 "Asbestos Waste Management Guidance" by EPA (EPA 530- SW-007). The Department does not require Class III facilities or monofills accepting asbestos to obtain hazardous waste facility permits.

Pursuant to the Hazardous Waste Management Act of 1986 (Roberti, 1986) the Department is required to adopt treatment standards for all hazardous wastes by May 8, 1990, including hazardous asbestos wastes. The Department is developing a staff report which will identify appropriate treatment for asbestos waste. Generators of asbestos wastes will only be required to use treatment technologies which have been demonstrated and which are available.

Fees and Taxes

State law imposes a fee and tax on the land disposal of hazardous waste. Additionally, a fee is imposed on generators of five tons or more/site/year of hazardous waste (regardless of disposition).

Land Disposal Fee and Tax

The Hazardous Waste Control Account (HWCA) land disposal fee is payable quarterly or semi-annually directly by generators who have disposed of more than 500 pounds per year of wastes to land. If the asbestos disposed involved 500 pounds or less, the disposal fee is payable by the facility which accepted the waste. If the disposal involves more than 500 pounds, the manifest should include the generator's Board of Equalization taxpayer number (listed in Section "B" of the manifest i.e. under state required items in the shaded portion). A Board of Equalization taxpayer number can be obtained from the Board by calling (916) 739-2582. Additional information on current hazardous waste fees and taxes can be obtained from the Board of Equalization at this same number, or the Department of Health Services at (916) 324-1826.

The annual Hazardous Substance Account (HSA) land disposal tax is payable July 1 of each year. The HSA tax is calculated after the Board of Equalization receives disposal returns due March 1 of each year. Persons who disposed of more than 500 pounds per year of asbestos will be billed directly by the Board of Equalization.

Generator Fee

State law imposes a fee on generators of 5 tons or more/site/year of hazardous waste regardless of disposition. The fee is payable directly by the generator who is billed annually by the Board of Equalization.

OBTAINING FURTHER ASSISTANCE

For additional information on DHS regulations governing the management of asbestos wastes in California, write or call the Toxic Substances Control Division office nearest you:

Department of Health Services
Region 1/Sacramento
Toxic Substances Control Division
4250 Power Inn Road
Sacramento, CA 95826
(916) 739-3145

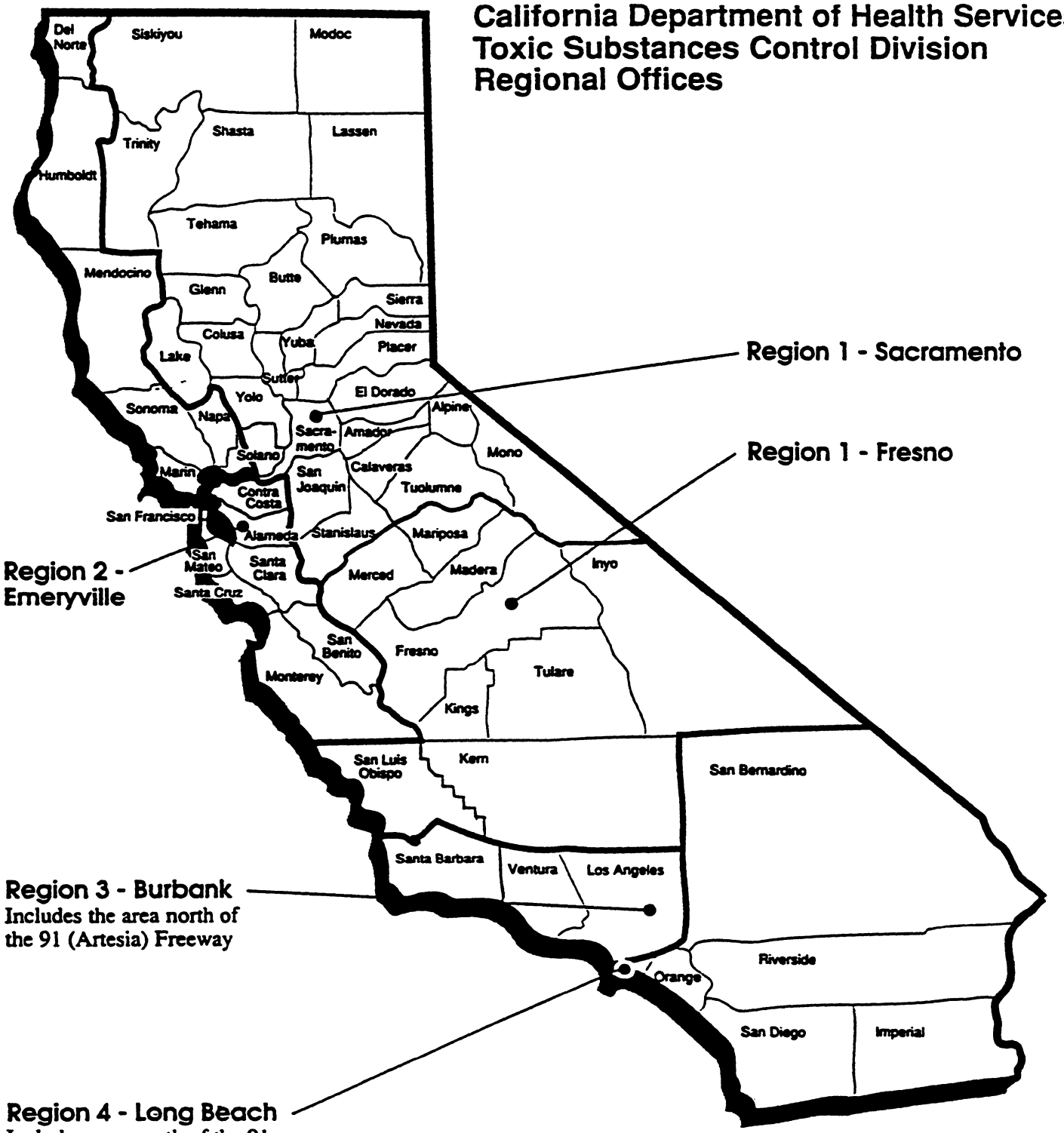
Department of Health Services
Region 1/Fresno
Toxic Substances Control Division
5545 East Shields Avenue
Fresno, CA 93727
(209) 445-5938

Department of Health Services
Region 2/Emeryville
Toxic Substances Control Division
2151 Berkeley Way, Annex 7
Berkeley, CA 94704
(415) 540-2043

Department of Health Services
Region 3/Burbank
Toxic Substances Control Division
1405 North San Fernando Blvd.
Suite 300
Burbank, CA 91504
(818) 567-3000

Department of Health Services
Region 4/Long Beach
Toxic Substances Control Division
245 West Broadway, Room 360
Long Beach, CA 90802
(213) 590-4868

California Department of Health Services
Toxic Substances Control Division
Regional Offices



Region 1 - Sacramento

Region 1 - Fresno

Region 2 - Emeryville

Region 3 - Burbank
Includes the area north of the 91 (Artesia) Freeway

Region 4 - Long Beach
Includes area south of the 91 (Artesia) Freeway

Other agencies that regulate asbestos wastes in California are:

- **California State Licensing Board**
  Effective January 1, 1987, asbestos removal and abatement contractors have to be certified by the State Licensing Board (Section 7058.5, Business and Professions Code). Effective July 1, 1989, state law prohibits any person from advertising for the removal of asbestos unless certified for that work and requires any person advertising asbestos removal services to include his or her certification and (Cal-OSHA) registration number in that advertising (Section 7030.6, Business and Professions Code).

  For further information on the certification requirement, steps to take when contracting with a company to remove asbestos, existing laws and regulations pertaining to asbestos-related work in California, basic health information, or to obtain a list of certified contractors, call the State Licensing Board at (916) 366-5153.

  Cal-OSHA
  A contractor must register with Cal-OSHA's Carcinogen Unit prior to any work involving asbestos (Section 6501.5, Labor Code). Call (415) 557-2037 for information on registration and notification requirements. Questions concerning occupational standards should also be addressed to Cal-OSHA.

- **Local Air Pollution Control District**
  Many of the Local Air Pollution Control Districts in California have been given authority to enforce the National Emission Standards for Hazardous Air Pollutants (NESHAP) which include asbestos. In addition, these local agencies have special notification requirements when asbestos demolition or renovation operations are undertaken. Some of these agencies charge an operation fee. Check local listings to contact these agencies for further information.

- **U.S. Environmental Protection Agency (EPA)**
  EPA has notification requirements pertaining to asbestos demolition and renovation operations. Call (415) 974- 7633 for further information regarding NESHAP rule compliance. For information regarding asbestos identification, health effects, abatement options, analytical techniques, monitoring, asbestos in schools, and contract documents, call the EPA Regional Asbestos Coordinator at (415) 974-7551.

Other sources of information and assistance include:

- **EPA TSCA Hotline**
  Washington, D.C. (202) 554-1404. General information concerning federal requirements in the areas of industrial and commercial notification procedures, school programs, analytical methods, abatement projects, and product use restrictions.

- **Pacific Asbestos Information Center**
  U.C. Extension, Berkeley, CA. (415) 643-7143. Continuing education and training for individuals and groups involved in the management, evaluation, and abatement of asbestos hazards.

- **Consumer Product Safety Commission**
  Washington, D.C. (800) 638-2772. Information concerning the identification and abatement of asbestos hazards in the home. Information on asbestos in certain consumer products is also available.

- **Toxic Information Center**
  San Francisco, CA. in-state (800) 233-3360, out-of-state (415) 821-5338. A general information service. Specific information on asbestos in residential settings is also available.

- **National Asbestos Council**
  Decatur, GA. (404) 633-2622 Collects, generates, and disseminates information to building owners, interested professionals, and the public concerning asbestos in buildings.

- **Labor Occupational Health Program**
  Berkeley, CA. (415) 642- 5507. Addresses concerns regarding occupational exposure.

- **Asbestos Information Association**
  Arlington, VA (703) 979- 1150. General information with emphasis on safety, health and environmental issues. Informational materials are available through the Association.

STATE OF CALIFORNIA-HEALTH AND WELFARE
DEPARTMENT OF HEALTH SERVICES
Toxic Substances Control Division
P.O. Box 942732
Sacramento. CA 94234-7320

LOS ANGELES RWQCB (4)-WASTE ACCEPTANCE LIST

213-576-6600

FACILITY NAME - LANDFILL	CONTACT PHONE NUMBER	COUNTY	CLASS	TYPE	ASB-ESTOS	AUTO SHRED	DRILLING MUDS	WASTE WATER	ASH	SEPTAGE	DESIG-NATED SOLIDS	DESIG-NATED LIQUIDS	SOILS WITH PETROLEUM	PESTICIDE CONTAINERS	COMPOSITE LINED CELL(S)	COMMENTS AND REMARKS
AZUSA - WASTE MANAGEMENT INC.	818-334-0719	LOS ANGELES	III	LF	+								+			INERT WASTE ONLY
BRADLEY WEST - WASTE MANAGEMENT INC.	818-252-3202	LOS ANGELES	III	LF									+		+	
BRAND PARK - CITY OF GLENDALE	818-548-3945	LOS ANGELES	U	LF												
BURBANK A.K.A. STOUGH PARK	818-238-3921	LOS ANGELES	III	LF									+			
CALABASAS - LA CO SAN DISTRICT	562-699-7411	LOS ANGELES	III	LF									*		+	
CALMAT, SUN VALLEY	626-856-6184	LOS ANGELES	U	LF												
CHANDLER SAND & GRAVEL CO.	310-784-2910	LOS ANGELES	U	LF												
CHIQUITA CANYON	661-257-3655	LOS ANGELES	III	LF		+							+			
HANSON AGGREGATES - IRWINDALE	818-960-5471	LOS ANGELES	U	LF												
LOWER AZUSA RECLAMATION PROJECT	909-625-1049	LOS ANGELES	U	LF												
MANNING PIT, NORTH	626-430-2212	LOS ANGELES	U	LF												
MONTEBELLO LAND & WATER COMPANY	213-722-8654	LOS ANGELES	U	LF												OPEN TO COMPANY CONSTRUCTION MATERIAL ONLY
NU-WAY LIVE OAK	626-301-9727	LOS ANGELES	U	LF												
PEBBLY BEACH - CATALINA	310-510-0675	LOS ANGELES	III	LF									+			
PECK ROAD	626-574-1855	LOS ANGELES	U	LF												
PUENTE HILLS - LA CO SAN DISTRICT	562-699-7411	LOS ANGELES	III	LF					+				+		+	TREATED ASH
RELIANCE PIT	323-258-2777	LOS ANGELES	U	LF												
SAVAGE CANYON - CITY OF WHITTIER	562-464-3524	LOS ANGELES	III	LF									+		+	
SCHOLL CANYON - LA CO SAN DISTRICT	818-243-9779	LOS ANGELES	III	LF									+			
SIMI VALLEY - WASTE MANAGEMENT INC.	805-579-7479	VENTURA	III	LF	+	+							+		+	NON-FRIABLE ASBESTOS ONLY
STONE CANYON - LA CITY, DWP	213-367-0241	LOS ANGELES	U	LF												
STRATHERN	818-845-4489	LOS ANGELES	U	LF												
SUNSHINE CANYON - BFI	818-362-1567	LOS ANGELES	III	LF									+		+	
TOLAND ROAD - VENTURA REG. SAN.DIST.	805-658-4674	VENTURA	III	LF									+		+	
UNITED ROCK PRODUCTS PIT #1 - IRWINDALE	626-358-4558	LOS ANGELES	U	LF												
UNITED ROCK PRODUCTS PIT #3 - IRWINDALE	626-358-4558	LOS ANGELES	U	LF												

LF=Landfill; U=Unclassified

DATED 6/27/02

Acceptance of petroleum contaminated soil only with concurrence of site operator and general Waste Discharge Requirement from Regional Board.

ACTIVE CLASS 1 LANDFILL SITES WITHIN EPA REGION IX

CALIFORNIA LANDFILLS

Altamont Pass
Livermore CA

Anderson Solid Waste, Inc.
18703 Cambridge Road
Anderson CA 96007

B & J Sanitary Landfill
1700 Maxwell Road
Chula Vista CA 92011

BKK Landfill
2210 South Azusa Avenue
West Covina CA 91791

Casmalia Resources
N.T.U. Road
Casmalia CA 92329

Chemical Waste Management
35251 Old Skyline Road
Kettlemam City CA 92329

Cold Canyon Landfill
Edna Road/Highway 227
San Luis Obispo CA 93401

Forward Incorporated
9999 Austin Road, Suite 405
Stockton CA 95203

G.S.X./Petroleum Waste, Inc.
2500 Lokern Road
Buttonwillow CA 93206

Mission County Disposal
970 Monterey Street
San Luis Obispo CA 95401

Sycamore Landfill
14494 Mast Boulevard
(west of Santee/Mission Boulevard)
Santee CA 92145

Zanker Resource Management
705 Los Esteros Road
San Jose CA 95134

(Updated 6/5/91)

ARIZONA LANDFILLS

Butterfield
40404 S. 99th Avenue
Mobile AZ 85239

Hassayampa (Maricopa)
339th Avenue
Buckeye AZ

Ina Road Solid Waste
5301 West Ina
Tucson AZ 85741

Los Reales Dump
5400 East Los Reales Road
Tucson AZ

Pen-Rob Corporate Landfill
Joseph City AZ 86032

Tangerine Landfill
Tangerine Road/Interstate 10
Tucson AZ

NEVADA LANDFILLS

Douglas County Landfill
Lake Tahoe NV

Elko County Landfill
City of Fallon
Fallon NV

Lockwood Landfill
Lockwood NV

Mustang Landfill
Mustang NV

Silver State Disposal Company
770 East Sahara Avenue
Las Vegas NV

Sunrize Landfill
770 East Sahara Avenue
Las Vegas NV

Western Landfill Sites (continued)

HAWAII LANDFILLS

Central Maui Landfill
Puuenene
Island of Maui HI

Central Maui Landfill
1827 Kaohu Wailuku
Wailuku HI 96793

Hilo Landfill
County of Hilo HI

Kailua-Kona County Landfill
Island of Maui HI

Kauai County Landfill
Island of Kauai HI

Waimanalo Gulch Landfill
Kahe Point
Waianae HI 96728

World Resources, Inc.
1019 Smith Street #406
Nanakuli HI

Waimanalo Gulch Landfill
Island of Oahu (Ewa) HI

NEW MEXICO LANDFILLS

Keers Environmental
Mountainaire NM

(Updated 6/5/91)

(Adopted October 15, 1982)

RULE 1150. EXCAVATION OF LANDFILL SITES

(a) Definitions

For the purpose of this rule:

(1) A Landfill is a place, location, tract of land, area, or premises in use, or which has been used for the disposal of waste.

(2) An Active Landfill is a landfill that has received and/or processed waste within the preceding two years.

(3) An Inactive Landfill is a landfill that has not received and/or processed waste within the preceding two years.

(4) Operator is the legal owner of a landfill or a person authorized by the legal owner to operate the landfill or to perform excavation activities at the landfill.

(5) Excavation means any activity which exposes buried waste to the atmosphere except for activities which are a normal part of the daily operation of an active landfill.

(b) Requirements

(1) The operator of a landfill is subject to the provisions of this rule.

(2) No person shall initiate excavation of an active or inactive landfill without Excavation Management Plan approved by the Executive Officer. The Plan shall, as a minimum, provide information regarding the quantity and characteristics of the material to be excavated and transported, and shall identify mitigation measures to be activated as necessary during excavation to ensure a that public nuisance condition does not occur. Mitigation measures shall be selected after consideration of the physical characteristics of the landfill. Such mitigation measures may include gas collection and disposal, baling, encapsulation, covering of the material, chemical neutralizing, or other measures approved by the Executive Officer.

(3) The Executive Officer shall not approve any Excavation Management Plan unless such a Plan includes a provision for immediate cessation of excavation activities when the operator is notified by the Executive Officer that a public nuisance has occurred. Upon determination by the Executive Officer that a public nuisance has occurred, those mitigation measures identified in the Plan

shall be implemented immediately, as well as any additional mitigation measures which the Executive Officer deems appropriate.

(4) As part of his evaluation of an Excavation Management Plan, the Executive Officer may consult with public health agencies in evaluating potential health effects. When the results of such consultations so warrant, ambient air monitoring equipment requirements may be specified as a condition of Plan approval.

(5) Compliance with the provisions of this rule does not exempt a person from complying with the requirements of Rule 402, Nuisance; California Health and Safety Code section 41700; or other applicable codes, rules, and regulations.

(6) The District shall respond within 30 days to the applicant as to whether a submitted Plan is complete or incomplete. If additional review time is needed by the District, the applicant will be so informed within the same 30-day period.

(c) Exemptions

(1) The drilling of holes up to 24 inches in diameter for geological evaluation or for telephone or power transmission poles or their footings.

(2) The drilling of oil wells, gas wells, or landfill gas collection wells or the maintenance of gas or leachate collection systems shall not require submittal of an Excavation Management Plan. Permit requirements to construct/operate equipment at a landfill remain, and are not affected by requirements for an Excavation Management Plan.

(3) Emergency excavation performed by, under the jurisdiction of, or pursuant to the requirements of, an authorized Health Officer, Agricultural Commissioner, or Fire Protection Officer. Whenever possible, the Executive Officer shall be notified prior to commencing such excavation.

(4) The Executive Officer may exempt from the requirements of this rule any excavation activities which he determines pose an insignificant risk of violating Health and Safety Code Section 41700.

(d) Fees

For the purpose of determining the appropriate processing fees only, the filing of an Excavation Management Plan shall be considered the equivalent of filing an application for a permit. The person submitting the Plan shall be assessed a filing fee as described in Rule 301(a), an engineering evaluation fee and operating fee as described in Rule 301(b) and 301(e) - Schedule 5, and where applicable, Rule 301(f) and Rule 304. The fees shall be due and payable as described in those rules.

(e) Effective Dates

The provisions of this rule shall be effective for any landfill site excavation begun after January 1, 1983.

6. Asbestos Regulations

ASBESTOS REGULATION

Federal Regulation

The Federal **Clean Air Act (CAA)** of 1971 requires the federal **Environmental Protection Agency (EPA)** to develop and enforce regulations necessary to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health.

Section 112 of the Clean Air Act (CAA) of 1971 sets forth **National Emission Standards for Hazardous Air Pollutants (NESHAP)**. NESHAP requirements for building demolition and renovation (including removal and disposal) were originally published April 6, 1973 as **40 CFR Part 61, Subpart M**, and specifically addressed:

- Demolition of buildings containing friable asbestos-containing fireproofing and insulating material; and
- Restrictions on the spraying of asbestos-containing materials (ACM) on buildings and structures for fireproofing and insulating purposes.

On May 3, 1974, NESHAP regulations were expanded to:

- Clarify definitions;
- Expand demolition provisions; and
- Clarify the visible emission standard to exclude uncombined water from regulatory requirements.

Subsequent to the decision of the federal court in *United States v. Adamo Wrecking* , the federal CAA was amended August 7, 1977, to authorize the use of "design, equipment, work practice and operational standards." Some, although not all, of these work practice standards were re-promulgated on June 19, 1978. On April 5, 1984, the regulation was further modified to ensure that all work practice standards were clearly defined and fully enforceable.

In 1990, NESHAP was modified once again to enhance enforceability and to ensure greater compliance with the standard by:

- Requiring daily monitoring for visible emissions; weekly inspections of air cleaning devices; and recordkeeping and reporting at asbestos milling, manufacturing, and fabricating sources;

- Revising notification requirements for demolition and renovation activities;

- Providing exemptions from the use of wet removal methods;

- Clarifying EPA's position regarding the handling and treatment of non-friable asbestos material;

- Requiring recordkeeping and reporting of asbestos waste disposal activities; and

- Establishing that operations which convert asbestos-containing waste material into non-asbestos material are regulated by NESHAP.

State and Local Regulation

The EPA is authorized to delegate the enforcement of NESHAP for asbestos to local air pollution control districts within each state. States which accept delegation may either adopt the asbestos NESHAP by reference to 40 CFR Part 61, Subpart M, or may write its own rule which is equivalent to or more stringent than the standard published in the federal code.

In the State of California, 17 of the 34 local air pollution control districts have accepted delegation for the asbestos NESHAP. As one of these 17 local agencies, the **South Coast Air Quality Management District (District)** must enforce nothing less stringent than NESHAP, but may adopt and enforce more stringent measures to control asbestos emissions. **District Rule 1403**, adopted October 6, 1989, expanded the applicability of the existing federal regulation to a wider range of emission-producing activities in the field.

STATE AND LOCAL AGENCIES WITH EPA-DELEGATED NESHAP AUTHORITY

AGENCY	AUTHORITY
California Air Resources Board 1101 "R" Street P. O. Box 2815 Sacramento CA 95812 ATTN: Francis Mateo (916) 322-6036 (916) 322-3976	All counties in California not specifically listed below
Bay Area AQMD 939 Ellis Street San Francisco CA 94109 ATTN: Richard Lew (415) 771-6000 (x282)	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, South Sonoma, South Solano Counties
Great Basin Unified APCD 157 Short Street Bishop CA 93514 ATTN: Larry Cameron (619) 872-8211	Mono, Inyo, Alpine Counties
Kern County Zone 2700 M Street, Suite 275 Bakersfield CA 93301 ATTN: Tom Goff (805) 861-3682	Kern County
Kings County Zone 2700 Campus Drive Hanford CA 93239 ATTN: Mark Poindexter (209) 584-1411	Kings County
Lake County AQMD 883 Lakeport Boulevard Lakeport CA 95453 ATTN: John Thompson (707) 263-7000	Lake County
Madera County APCD 135 West Yosemite Avenue Madera CA 93637 ATTN: Bill Sturk (209) 675-7823 (209) 675-7824 (209) 675-7825	Madera County

AGENCY	AUTHORITY
Mariposa County APCD P. O. Box 5 4988 Eleventh Street Mariposa CA 95338 ATTN: Jon Christenson (209) 966-0200	Mariposa County
Mendocino County Zone County Courthouse 306 E. Gobbi Ukiah CA 95482 ATTN: Phil Towle (707) 463-4354	Mendocino County
Modoc County APCD 202 West 4th Street Alturas CA 96101 ATTN: Les Wright (916) 233-6401	Modoc County
Monterey Bay Unified APCD 2580 Silvercloud Court Monterey CA 93940 ATTN: Michael Sheehan (408) 647-9411	Monterey County
North Coast Unified APCD 2389 Myrtle Avenue Eureka CA 95501 ATTN: Tammy Pallingston (707) 443-3093 FAX (707) 443-3099	Humboldt, Del Norte, Trinity Counties
Northern Sonoma County APCD 109 North Street Healdsburg CA 95448 ATTN: George Erdman (707) 433-5911	Northern Sonoma County
Sacramento Metropolitan APCD 8475 Jackson Road, Suite 215 Sacramento CA 95826 ATTN: Jack Momperler (916) 386-7009	Sacramento County
San Bernardino County APCD 15428 Civic Drive, Suite 200 Victorville CA 92392 ATTN: Steve Jenkins (619) 243-8912	San Bernardino County (desert portion)

AGENCY	AUTHORITY
San Diego County APCD 9150 Chesapeake Drive San Diego CA 92123-1096 ATTN: Jimmy Cooksey (619) 694-3307	San Diego County
San Joaquin Valley Unified APCD 2314 Mariposa Street Fresno CA 93721-2203 ATTN: Michael Escotto ATTN: Tony Scott (209) 468-3470 Headquarters 1999 Tuolumne Street, Suite 200 Fresno CA 93721 ATTN: David Crow, Executive Director, APCD (209) 497-1000 ATTN: Bob Bashian (209) 233-2203 FAX (209) 233-2057 Northern Region 4230 Kiernan Avenue Salida CA 95356 (209) 545-7000 Southern Region 2700 M Street, Suite 275 Bakersfield CA 93301 (805) 861-3682	San Joaquin, Stanislaus, Madera, Merced, Fresno, Kern, Kings, Tulare Counties San Joaquin, Stanislaus Merced Counties
San Luis Obispo County APCD 2156 Sierra Way, Suite B San Luis Obispo CA 93401 ATTN: Karen Brooks (805) 781-5912	San Luis Obispo County
Santa Barbara County APCD 240 East Highway 246, Suite 207 Buellton CA 93427 ATTN: George F. Tise II (805) 686-5012 26 Castilian Drive, B-23 Goleta CA 93117 ATTN: James Ryerson, Director William A. Master, Asst. Director (805) 961-8800	Santa Barbara County

AGENCY	AUTHORITY
South Coast AQMD 21865 E. Copley Drive Diamond Bar CA 91765-4182 ATTN: Roy Bailey (909) 396-2327	Los Angeles, Orange, Riverside, San Bernardino (non-desert portion)
Stanislaus County Zone 1716 Morgan Road Modesto CA 95351 ATTN: Mark Macedo (209) 525-4152	Stanislaus County
Tulare County Zone Health Building Environmental Health Division County Civic Center Visalia CA 93291 ATTN: Susan Tange ATTN: Dave Warner (209) 733-6441	Tulare County
Ventura County APCD 702 County Square Drive Ventura CA 93003 ATTN: Jay Nicholas (805) 645-1000	Ventura County
Yolo-Solano County APCD 1947 Galileo Court, Suite 103 Davis CA 95616 ATTN: Dave Smith (916) 757-3650	Yolo, Northern Solano Counties
Washoe County District Air Quality Management 1001 East 9th Street Reno NV 89512 P. O. Box 11130 Reno NV 89520 ATTN: Chuck King (702) 328-3760	Washoe County (NV)
Clark County Health District Air Pollution Control Division P. O. Box 4426 625 Shadow Lane Las Vegas NV 89127 ATTN; Harold Glasser (702) 382-1276	Clark County NV

AGENCY	AUTHORITY
Office of Air Quality Arizona Department of Environmental Quality 3033 North Central Avenue, 7th Floor Phoenix AZ 85012 ATTN: Yvette David (602) 257-2287	All counties in Arizona except Pima and Maricopa
Pima County DEQ 130 West Congress Street, 3rd Floor Tucson AZ 85701 ATTN: Jon Marting, Asbestos Coordinator (602) 740-3340 FAX (602) 992-7709	Pima County (AZ)
Maricopa County APCD 1825 E. Roosevelt Street Phoenix AZ 85006 ATTN: Steve Olson (602) 506-6708 (direct line) (602) 258-6381 (x506) FAX (602) 506-6962	Maricopa County (AZ)
Hawaii Department of Health Clean Air Branch 500 Ala Moana Boulevard Waterfront Plaza, Suite 250-B Honolulu HI 96813 ATTN: Paul Aki, Branch Chief (808) 543-8200	State of Hawaii

ADDITIONAL CONTACTS

Barbara Reese
Asbestos Coordinator
Pinal County
P. O. Box 1076
Florence AZ 85232-1076
(602) 868-5801 (x485)

Steve Hether
Building Inspector
Asbestos Abatement Contractor
P. O. Box 1610
Florence AZ 85201
(602) 868-5801 (x455)

Gerald Karches
National Asbestos Council
Arizona Chapter President
Southwest Hazard Control, Inc.
500 W. Massingale Road
Tucson AZ 85743-9620

NESHAP contact person for all Region IX delegated agencies

Robert Trotter
United States Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco CA 94105

federal register

Tuesday
November 20, 1990

Part III

Environmental Protection Agency

40 CFR Part 61

National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 61

[AD-FRL-3814-7]

RIN 2060-AC57

National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This Federal Register notice promulgates rules under section 112 of the Clean Air Act (CAA) for asbestos emissions and is based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (*see* 36 FR 3031, March 31, 1971). The purpose of the revisions promulgated today is to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls. On January 10, 1989 the Environmental Protection Agency (EPA or the Agency) proposed amendments to the asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) that would require control device and fugitive emission monitoring, recordkeeping, and reporting for asbestos milling, manufacturing, and fabricating operations. For planned demolitions and renovations, revisions to the notification requirements were proposed, and safety was added as a reason for exemption from the use of wet removal methods. Recordkeeping requirements were proposed for asbestos waste disposal. Clarifying revisions to several definitions and provisions were also proposed. Numerous comments were received on the proposed revisions, and today's notice responds to those comments, and incorporates changes as a result of those comments.

EFFECTIVE DATE: November 20, 1990. Under section 307(b)(1) of the Clean Air Act, judicial review of the actions taken by this notice is available only by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit within 60 Days of today's publication of these rules. Under section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: *Background information document.* The background information document (BID) for the promulgated revisions may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina, 27711, telephone no. (919) 541-2777. Please refer to "Background Information for Promulgated Asbestos NESHAP Revisions." (Publication No. EPA 450/3-90/017). The BID contains a summary of all the public comments made on the proposed revisions and the Administrator's responses to the comments.

Dockets. Docket No. A-88-28 contains supporting information used in developing the final revisions to the asbestos NESHAP and is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket (LE-131), Room M-1500, 1st Floor, Waterside Mall, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information and official interpretations of applicability, compliance requirements, and reporting aspects of the promulgated revisions, contact the appropriate Regional, State or local office contact as listed in 40 CFR 61.04. For further information on the background of the regulatory decisions in the promulated revisions, contact Mr. Sims Roy, Standards Development Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. (919) 541-5263. For further information on the technical aspects of the promulgated revisions, contact Mr. Ronald Myers, Industrial Studies Branch, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone no. (919) 541-5407.

SUPPLEMENTARY INFORMATION:

I. The Standards

The promulgated revisions implement section 112 of the Clean Air Act (CAA) and are based on the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (*see* 36 FR 3031 (March 31, 1971)). The revisions promulgated today amend the asbestos NESHAP to enhance enforcement and promote compliance with the current standard without altering the stringency of existing controls.

Milling, Manufacturing and Fabricating

The revisions to the standards require asbestos milling, manufacturing and fabricating sources to conduct daily monitoring for visible emissions. W the absence of visible emissions does not mean there are no asbestos fibers being emitted, the presence of visible emissions does indicate a serious control device malfunction. Because visible emissions monitoring is intended primarily to detect serious control device malfunctions, weekly inspections of air cleaning devices are also required. In addition, the revisions promulgated require these sources to maintain records of the results of visible emissions monitoring and control device inspections, and to submit quarterly a copy of visible emissions monitoring records of visible emissions occurred during the quarter. The revision requires owners or operators who install fabric filters after the effective date of this rule to provide for easy inspection of the bags.

Demolition and Renovation

The revisions require the owner or operator of a demolition or renovation activity to provide additional information in notifications, and to renotify EPA if the start date of a demolition or renovation changes from that given in the original notification. Another revision requires owners or operators to give a 10-day notice for renovations. A person trained in the provisions of this rule and the means of complying with them is required to be on site when asbestos-containing material (ACM) is stripped, removed or disturbed. When wetting is suspended due to freezing temperatures, owners or operators are required to measure air temperature in the work area three times during the workday and keep daily temperature records for at least 2 years. The revisions also clarify EPA's position regarding the handling and treatment of nonfriable asbestos materials such as resilient floor covering, including vinyl asbestos floor tile, and roofing material.

Waste Disposal

The revisions require vehicles used to transport asbestos-containing waste material to be marked with the sign prescribed by the Occupational Safety and Health Administration during loading and unloading to warn people of the presence of asbestos. For all asbestos-containing waste material transported offsite, the revisions require that a waste shipment record (WSR) be provided to the waste site owner or operator at the time that the waste i

delivered to the waste disposal site. If a copy of the WSR signed by the waste site owner or operator is not received within 35 days of the date the waste was accepted by the initial transporter, the revisions direct the waste generator to contact the transporter and/or disposal site owner or operator to determine the status of the waste shipment. The revisions further direct the waste generator to submit an exception report to EPA if a signed copy of the WSR is not received within 45 days of the date the waste was accepted by the initial transporter. Labels are required on containers of asbestos-containing waste material from manufacturing, fabricating, demolition and renovation activities indicating the name of the waste generator and the location where the waste was generated.

Inactive Waste Disposal Sites

The revisions require the owner or operator of an inactive waste disposal site for a milling, manufacturing or fabricating operation to notify the Administrator in writing prior to excavating or otherwise disturbing asbestos-containing waste material that has been deposited at the disposal site and to record on the deed to the property a notation that will inform future purchasers of the property that it has been used for the disposal of asbestos-containing waste material and that the survey plot and record of the location and quantity of such waste material are on file with the Administrator.

Active Waste Disposal Sites

The revisions require the owner or operator of an active waste disposal site to maintain WSRs and report in writing the receipt of a significant amount of improperly enclosed or uncovered waste to EPA by the following working day. The owner or operator of an active waste disposal site is required by the revisions promulgated today to send a signed copy of the WSR back to the waste generator no more than 30 days after receipt of the waste, to attempt to reconcile any discrepancy between the quantity given on the WSR and the quantity actually received and, failing to do so within 15 days after receiving the waste, to report the discrepancy and any attempts to reconcile it to the Administrator. The revisions promulgated today also require the owner or operator of an active disposal site to maintain records of the location, depth and area, and volume of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area. Upon closure, the owner or operator must comply with all the rules promulgated for inactive waste disposal sites. A revision requires the owner or operator of an active waste disposal site to notify the Administrator in writing prior to excavating or otherwise disturbing asbestos-containing waste material that has been deposited at the disposal site and covered.

Asbestos Conversion Processes

A section is promulgated to clarify that operations that convert asbestos-containing waste material into nonasbestos (asbestos-free) material are covered by the NESHAP. The provisions promulgated require the owner or operator of such an operation to obtain prior written approval of the Administrator to construct the facility, and conduct a start-up performance test using specified analytical methods and procedures. Requirements for continuous monitoring during and after the initial 90 days of operation, emissions control, maintenance of records of test results on site, and reports to the Administrator are also promulgated today.

II. Environmental, Energy and Economic Impacts

The environmental, energy, and economic impacts of the revisions for demolition and renovation, including waste disposal, were estimated from two baselines. One is full compliance with the NESHAP, and the other is current use of engineering controls and work practices. Enforcement experience indicates that many asbestos removal operations related to demolition and the subsequent waste disposal operations are performed out of compliance with the NESHAP. The lack of compliance with the NESHAP removal provisions leads to the improper disposal of some waste, especially demolition waste, with the result that emissions from the disposal of demolition waste greatly exceed other emissions, including process emissions from milling, manufacturing, and fabricating. Liability and other considerations generally lead the owners of buildings being renovated to follow or even exceed the requirements of the NESHAP. Thus, the appropriate baseline for demolition is current use of work practices rather than full compliance. At asbestos milling, manufacturing, and fabricating facilities, the required air pollution control devices are generally in place. Thus, for milling, manufacturing, and fabricating, full compliance with the NESHAP, including the waste disposal requirements, is assumed for the baseline.

Few emission measurement data exit for asbestos sources. Thus, emissions were estimated using engineering methods and assumptions, which resulted in substantial uncertainty. A detailed description of the approaches used to estimate emissions is found in "Asbestos Emission Estimates for Milling, Manufacturing, Fabricating, Demolition, Renovation, and Waste Disposal," which is contained in Docket A-88-28. Estimated process emissions under the current NESHAP at full compliance for milling, manufacturing, and fabricating are approximately 7,400 kg/yr. Based on current practices, estimated emissions from the removal activities associated with demolition and renovation are approximately 1,300 kg/yr and estimated waste disposal emissions from all sources are 227,000 kg/yr. If demolition and renovation were in full compliance, estimated emissions from asbestos removal activities associated with demolition and renovation would be about 700 kg/yr. Estimated emissions from waste disposal, assuming full compliance with the NESHAP by all sources, would be about 600 kg/yr.

The costs of the revisions are expected to be small relative to normal operating costs for these industries. The revisions are intended to promote compliance and enhance enforceability. Small additional costs are associated with the recordkeeping and reporting requirements of the revisions. Economic impacts of the promulgated alternatives are expected to be minimal. Adverse impacts of the promulgated revisions on water, noise, and energy were considered. Due to the nature of the revisions, no significant adverse impacts on water, noise, or energy are anticipated.

III. Public Participation

The revisions were proposed and published in the Federal Register on January 10, 1989 (54 FR 912). The preamble to the proposed standards revisions noted the availability in the docket of the supporting information used in developing the proposed revisions. Public comments were solicited at the time of proposal.

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed revisions, a public hearing was held on February 8, 1989, at Research Triangle Park, North Carolina. The hearing was open to the public, and 6 persons presented comments.

The public comment period specified in the Federal Register notice was from January 10, 1989 to March 7, 1989. One

proposal. The comments have been carefully considered and, where determined to be appropriate by the Administrator, changes have been made to the proposed revisions.

IV. Significant Comments and Changes to the Proposed Revisions

Comments on the proposed revisions were received from industry, trade associations and regulatory agencies. A detailed discussion of these comments and responses can be found in the promulgation BID, which is referred to in the ADDRESSES section of this preamble. The comments and responses summarized in the BID serve as the basis for the changes that have been made to the revisions between proposal and promulgation. The major comments and responses are summarized in this preamble. Most of the comment letters contained multiple comments. Significant comments have been divided into the following areas: demolition and renovation, and waste disposal.

Demolition and Renovation

Nonfriable ACM

Comment: Several commenters argued that the rule should be modified to clarify that certain products are nonfriable and, therefore, not regulated. Asbestos cement (A/C) products, including transite and exterior shingles, should be included among nonfriable products according to commenters IV-D-49, IV-D-72, and IV-D-93. Asbestos-containing flooring products, such as tile and sheet vinyl flooring, were considered by several commenters (IV-D-15, IV-D-47, IV-D-48, IV-D-55, IV-D-84, and IV-D-95) to always be nonfriable and exempt from the rule, with the exception of flooring that was being sanded (IV-D-47, IV-D-48). Another commenter, IV-D-48, in reference to asbestos roofing products, argued that there is no basis in the record for saying that severely weathered asphaltic material could become brittle. Commenters IV-D-21, IV-D-31, IV-D-48, IV-D-49, and IV-D-93 recommended that the rule be clarified to exempt all nonfriable materials as the rule is currently understood. Commenter IV-D-93 argued that in present day ACM, the asbestos fibers are locked in cement or bituminous or resinous binders and that the materials can be removed and disposed of without any significant release to the environment.

Response: In 1973 when the asbestos NESHAP rules were first promulgated for the demolition of buildings, EPA's asbestos fibers when damaged or disturbed and those materials that were unlikely to result in the release of significant amounts of asbestos fibers. To accomplish this, EPA labeled as "friable" those materials that were likely to readily release fibers. Friable materials, when dry, could easily be crumbled, pulverized, or reduced to powder using hand pressure. The term "reduced to powder" is readily understood to mean that the affected material is changed to a dust or powder that can become airborne. "Pulverized" indicates that the resulting material will include dust as well as a large number of small pieces of the original material. The term "crumbled" indicates that the affected material is easily (i.e., using hand pressure) broken into a large number of small pieces. Although dust is likely to be produced as a result of crumbling, it is possible that there are some types of materials that can be crumbled without producing dust. It is also understood that crumbling refers to an action that occurs essentially in one effort and not to repeated attempts to crumble the material. For example, floor tile in good condition can be broken by hand into a few large pieces, but it is not easily broken in one effort into many small pieces. On the other hand, floor tile that has lost its structural matrix is in poor condition and can be broken into many small pieces in one effort.

Later, EPA realized that, in some instances, nonfriable materials that were subjected to intense forces, such as the intense mechanical forces encountered during demolition, could be crumbled, pulverized, or reduced to powder. In these instances, certain materials which had been considered nonfriable appeared capable of releasing significant amounts of asbestos fibers to the atmosphere. Examples of practices that were observed by EPA to reduce otherwise nonfriable asbestos material to dust capable of becoming airborne included the breaking of nonfriable insulation from steel beams by repeatedly running over the beams with a crawler tractor. In view of the damage done to these otherwise nonfriable materials and the resulting increased potential for fiber release, these and other similar practices involving nonfriable asbestos material were considered to render nonfriable ACM into dust capable of becoming airborne.

As a result, EPA issued a policy determination in 1985 regarding the removal of nonfriable asbestos material that was consistent with EPA's intent to [illegible] significant amounts of asbestos fibers during demolition and renovation operations and those that would not. This policy determination stated in essence that any ACM, whether originally friable or nonfriable that become (or are likely to become) crumbled, pulverized, or reduced to powder are covered by the NESHAP. Specifically, the determination stated that

> • • • even though the regulations address only material that is presently friable, it does not limit itself to material that is friable at the time of notification. Rather, if at any point during the renovation or demolition, additional friable asbestos material is • • • created from nonfriable forms, then this additional friable material becomes subject to the regulations from the time of creation • • •

The issuance of this determination did not alter the intent of the NESHAP, but was consistent with the intent of the standard that was written to prevent significant emissions of asbestos fibers. The intent of the policy determination was that it apply narrowly to specific instances where otherwise nonfriable materials would be damaged during demolition or renovation to the extent that significant amounts of asbestos fibers would be released to the atmosphere. A statement in the determination to the effect that some nonfriable materials may remain nonfriable throughout demolition and renovation is evidence that this determination was intended to be narrowly interpreted and not used to require removal of all nonfriable materials. For example, materials such as resilient floor covering, asphalt roofing products, packings, and gaskets would rarely, if ever, need to be removed because, even when broken or damaged, they would not release significant amounts of asbestos fibers. But, just as it is important to recognize that some nonfriable materials do not have to be removed prior to demolition, it is also important to recognize that some nonfriable materials should be removed prior to demolition if, as a result of the forces of demolition, nonfriable material is likely to become crumbled, pulverized, or otherwise reduced to powder. For example, the A/C siding on a building that is to be demolished using a wrecking ball is very likely to be crumbled or pulverized with increased potential for the release of significant levels of asbestos fibers. Such material in this instance should be removed prior to demolition.

Since this policy determination was made, there has been some confusion in

its application. As a result, contractors operating in more than one enforcement jurisdiction have encountered different interpretations for similar demolition operations. For example, there have been instances in which contractors are required, prior to demolition, to remove floor tile in one enforcement jurisdiction but not in another. Contractors and/or building owners and operators are unsure as to what materials must be removed and what materials can be left in place and are often hesitant to proceed without a ruling from EPA, which can involve significant delays.

As a consequence, EPA received a number of requests from State and regional enforcement agencies to clarify what is required under the NESHAP in dealing with nonfriable materials since the 1985 policy determination was issued. In response to these requests, a clarification of the nonfriable issue was included in the revisions proposed on January 10, 1989. These revisions were intended to clarify the intent of the original rule. Basically, EPA stated in the January 10, 1989, Federal Register notice that certain nonfriable materials, such as floor tile, roofing products, and packings and gaskets that are in good condition, can be left in buildings being demolished because fiber release from these materials, even if the materials are damaged, is relatively small compared to the fiber release from friable materials. Other nonfriable products such as A/C products have a greater potential to release asbestos fibers when heavily damaged and may have to be removed prior to demolition.

In response to the revisions proposed on January 10, 1989, numerous comments were submitted to EPA. Many of the commenters argued that EPA was attempting to regulate nonfriable materials, which were explicitly exempted in previous asbestos NESHAP rulemakings. Many comments stated that the proposed revisions did not help to clarify EPA's position on nonfriable material and may have made matters more confusing.

In responding to the comments, a literature survey was conducted to determine if it was possible to quantify the fiber release potential of nonfriable materials when they are damaged during demolition. All of the available data on fiber release from floor tile, roofing products, gaskets, packings, and A/C products was reviewed. In some instances, the fiber release data were measured during actual removal operations, while other data were from simulated removal activities in laboratory settings. For the materials evaluated, the potential for fiber release appeared minimal and substantially lower than for friable materials. These findings, while uncertain, support EPA's original argument that there is a basis for making a distinction between materials that readily release fibers and those that do not.

As a result of the comments received on this issue and the additional information gathered in response to comments, EPA has been able to compile a list of nonfriable ACM that, under normal conditions, do not have to be removed prior to demolition operations. These ACM are not expected to release significant amounts of asbestos fibers to the outside air during demolition and, consistent with the intent of the existing standards, are not being regulated. A definition of "category I nonfriable ACM" is added to the final rule, which lists resilient floor covering, roofing products, gaskets, and packings. However, if these materials are in poor condition and are friable or they are subjected to sanding, grinding, cutting, or abrading, they are to be treated as friable asbestos material. Category I nonfriable ACM that is in poor condition, but is not friable and will not be subjected to sanding, grinding, cutting, or abrading, is not subject to the NESHAP. "In poor condition" has been defined to mean that the binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material. Other nonfriable materials are identified as Category II nonfriable ACM and have to be evaluated on a case-by-case basis. Category II materials that become crumbled, pulverized, or reduced to powder during removal or during demolition are covered by the NESHAP.

Broken ACM

Comment: Commenters IV-D-47, IV-D-89, IV-D-93, and IV-D-95 explained that use of the term "broken" to describe materials that are subject to the rule is inconsistent with the current NESHAP and expands coverage of the NESHAP. These commenters stated that merely breaking nonfriable material does not equate to fiber release. One commenter, IV-D-89, noted that noncompliance may increase where nonfriable material is broken during demolition or renovation, but is not controlled or reported according to the NESHAP.

Response: After considering this issue, EPA agrees with commenters that retaining the word "broken" could be interpreted as substantially increasing the scope of the standard and, therefore, has removed it from the definition. Most nonfriable materials can be broken without releasing significant quantities of airborne asbestos fibers. It is only when the material is extensively damaged, *i.e.*, crumbled, pulverized, or reduced to powder, that the potential for significant fiber release is greatly increased. Also, in the definitions of "asbestos-containing waste material," "friable asbestos material," and elsewhere, the word "broken" is deleted. The EPA is planning to issue additional information in the future on this and other aspects of the NESHAP to help enforcement officials and the regulated community interpret and apply the NESHAP provisions.

Inspections

Comment: Three commenters argued that EPA should include mandatory asbestos surveys in the rule. Commenter IV-D-4 stated that EPA should require surveys for all buildings prior to and separate from any demolition or renovation activity. Commenter IV-D-4 stated that such building surveys could become part of a public record, making the absence of a survey a violation. Commenter IV-D-4 noted that, if the survey indicated that a structure was asbestos free, all notification and enforcement costs would be eliminated. Also, commenter IV-D-4 explained that a demolition without proper notification could be easily established later.

Commenters IV-D-57 and IV-D-84 stated that EPA's requirement to survey buildings prior to demolition and renovation is implicit and should be made explicit and require that surveys be performed by an accredited asbestos inspector. Commenter IV-D-57 also noted that OSHA requires a building survey by a competent person and stated that EPA should similarly require a site-specific survey before demolition, with details on how the building will be demolished and how the asbestos will be controlled.

Response: The EPA currently requires that a facility be inspected for asbestos prior to demolition or renovation. As a result of the survey, information on the asbestos material present, the nature of the demolition or renovation, and measures that will be taken to control emissions of asbestos must be reported to EPA. Commenters IV-D-57 and IV-D-84 are correct in saying that it is an implicit requirement and that it is not stated explicitly in the rule. The final rule expressly requires a facility survey for asbestos prior to demolition or renovation. Although previously implied, this revision clarifies EPA's position on the requirement to perform building surveys.

The EPA also considered the suggestion to require that surveys be

performed by an "accredited" inspector or by a "competent" person as required by OSHA. OSHA's requirement to have a competent person perform an engineering survey prior to demolition (29 CFR 1926.850) is to ensure that the structural integrity of a structure is sufficient to prevent worker injury caused by the unplanned collapse of any portion of the structure; a search for asbestos is not required. An accredited inspector or competent person can perform the survey although using such individuals is not required. Using an accredited inspector and following the AHERA requirements for building inspections would help ensure a thorough inspection of the facility as required by the NESHAP. However, EPA has not had this requirement before and did not propose such a requirement. The EPA will consider a requirement to use accredited inspectors in future amendments to the rule.

Commenter IV-D-4's suggestion to require the survey of all buildings in advance of demolition or renovation would increase the stringency of the regulation by requiring all owners and operators to survey their facilities for asbestos even when no demolition or renovation operations were planned. The revisions proposed on January 10, 1989, are intended to clarify the rule and promote compliance. The need for a revision that would affect stringency may be considered at a later date. However, such a requirement would require a substantial commitment of resources to perform surveys of all existing buildings. In addition, it is not clear that it would always negate the need for pre-demolition inspections in the future.

Friable Asbestos Material—Analytical Method

Comment: Commenters IV-D-17, IV-D-35, and IV-D-70 supported the proposed changes to the definition of "friable asbestos material," specifically the change to percent by area. Commenter IV-D-69 argued that to go from percent weight to percent area may have a major impact on coverage because there may be wide discrepancies in the results reported by the two methods. Commenter IV-D-69 provided an example of this, stating that a cement-based fireproofing that contained 30 percent asbestos by area contained less than 1 percent by weight. Commenter IV-D-70 felt that the definition of "friable asbestos material" was appropriate; however, the method referenced should not be limited to point counting in view of 47 FR 1982, p. 38535, which clarifies the acceptability of "an equivalent estimation method."

Commenter IV-D-78 stated that the definition would require asbestos content to be determined by transmission electron microscopy (TEM) analysis, and that the high cost of TEM should be considered. Commenter IV-D-78 recommended that the current method continue to be accepted with TEM specified over other methods.

Response: The revisions to the asbestos NESHAP proposed on January 10, 1989 would have changed the definition of "friable asbestos material" from "greater than 1 percent weight" to "greater than 1 percent area" and referenced a method for the analysis. Because the method referenced actually contains two analytical methods—polarized light microscopy (PLM) which currently measures area, and x-ray diffraction (XRD) which measures weight—EPA has modified the definition to specify the PLM method to avoid possible confusion as to which method is referenced. Because the PLM point counting method measures percent area, the phrase "by area" is not necessary and has been taken out of the definition. The difference between percent area and percent weight depends on the density and volume of materials in the sample. These relationships are described in Asbestos Content in Bulk Insulation Samples: Visual Estimates and Weight Composition (EPA-560/5-88-011, September 1988). However, the fact remains that the PLM procedure used to determine the amount of asbestos in building materials (Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA-600/M4-82-020, December 1982) measures percent area and not percent weight. PLM laboratories polled at meetings of the National Asbestos Council admitted that percent area is what they measure and report. Accordingly, there should be no impact on the standard from the proposed change.

Point counting is not required for the PLM procedure. An equivalent visual estimation technique may be used. Visual estimation may be made during macroscopic examination with a stereobinocular microscope, resulting in a volumetric estimation of components. For most samples, quantitation by macroscopic examination is preferred. Visual estimation may also be made during polarized light microscopy (PLM) examination, resulting in a projected area estimation of components. However, if the asbestos content is estimated to be less than 10 percent by a method other than point counting, such as visual estimation, EPA has revised the definition to require that the determination be repeated using the point counting technique with PLM. Point counting, a systematic technique for estimating concentration, may also be useful in quality assurance activities, especially in establishing a relationship between point counts and visual estimation procedures.

The accuracy of quantitative data from either technique of estimation is dependent upon several factors, including: sample homogeneity, asbestos content, asbestos fiber size, the presence of interfering matrix/binder material, and the skill of the microscopist. It is suggested that the quantitation skill of the microscopist may be improved and concurrently verified through the use of calibration standards. These standards may include well-characterized bulk materials or in-house calibration standards formulated by mixing known weights of commonly available fibrous (asbestos, cellulose, glass, *etc.*) and nonfibrous (plaster, clay, vermiculite, calcium carbonate, *etc.*) materials.

For some materials, experience has shown that gravimetry (gravimetric sample reduction) is a viable technique to aid in the determination of asbestos content. The technique involves the systematic removal (and determination of the resulting weight loss) of interfering components, and the concentration of asbestos in a residue the components of which are identified by PLM. EPA is currently conducting research to develop procedures that will help determine the appropriate analytical procedure to use based on the type of material, the level of asbestos present in the material, as well as other factors.

TEM is not recommended for routine analysis of bulk samples. TEM may be useful in the analysis of special materials containing finely divided asbestos particles. The EPA is currently reviewing procedures for analyzing bulk samples for asbestos. Under investigation are procedures that would determine what analytical techniques are appropriate for bulk samples of different materials and different asbestos contents. For example, a simple visual estimation technique may be appropriate for the initial screening of bulk samples of friable material. If the visual estimation technique indicates that the asbestos content is less than 10 percent, additional quantitation by point counting would be required. If the material to be analyzed contains asbestos fibers below the limit of resolution for PLM, which is often true of floor tile, then analysis by TEM is appropriate.

Method of Notification

Comment: Several comments were received on the requirement to use certified mail for notifying EPA. Most of the commenters objected to the use of certified mail to the exclusion of other methods.

Commenters IV-D-23, IV-D-24, IV-D-25, IV-D-42, IV-D-78, IV-D-59, and IV-D-65 considered the certified mail requirement to be unnecessary for EPA to achieve the intended purpose of the notification process. It was stated that certified mail would require a trip to a post office, which is a deterrent to timely notification. Commenters IV-D-23, IV-D-24, IV-D-41, and IV-D-78 argued that notification by telefax machine may be more practical than certified mail. Commenters IV-D-25, IV-D-65, and IV-D-83 suggested that notification by telephone or telefax be allowed, followed by a written notification. Commenters IV-D-24, IV-D-25, IV-D-42, and IV-D-65 observed that regular mailing of notices works satisfactorily and should be allowed. Commenters IV-D-28 and IV-D-66 favored allowing the use of overnight mail.

Commenter IV-D-59 argued that, if a State agency has jurisdiction, the method of notification should be left up to the State agency.

Commenter IV-D-32 argued that all notifications should be in writing because telephone notification does not result in a legally enforceable written record. Also, commenter IV-D-32 stated that allowing the use of telephones would promote schedule changes for minor reasons that would not otherwise be considered.

Response: Several of the commenters objected to the required use of certified mail even though EPA proposed the use of certified mail as a way of ensuring that owners/operators had proof of notification. In view of the negative comments and after reconsidering the issue, the EPA has decided not to require certified mail although its use would be allowed. The use of the regular mail system, *i.e.*, U.S. Postal Service, has worked satisfactorily in the past and will continue to be allowed. Also, because the rule specifies postmark "* * * or deliver * * *" private overnight mail delivery is permitted.

Regarding the use of telephone facsimile (fax) machines to transmit notices, EPA does not consider these systems to be sufficiently reliable, at this time, to allow their use. Often, it is difficult to know whether a transmission was successful. Disadvantages associated with their use include occasional incomplete transmissions and transmissions of poor quality requiring faxed messages to be followed by telephone contact to confirm proper transmission. More than one transmission may be required. In some instances, quality cannot be improved. Also, because of competing messages, it often requires a long time before a fax can be properly transmitted and verified. The EPA may consider the use of facsimile machines in the future when their reliability has been improved.

The EPA does not consider it necessary to allow the use of the telephone for the original notification of a demolition or renovation activity covered by this standard. The notification must be in writing.

Where States or local authorities enforce their own asbestos regulations, they may choose the notification procedures. But if a State is delegated authority for enforcing the NESHAP, then they must adhere to the NESHAP's requirements.

The EPA is in agreement with the commenter who favors written notifications over telephone notifications and the final rule continues to require the former.

It should be noted that OSHA has recently proposed notification requirements [55 FR 29712, July 20, 1990] similar to those in the NESHAP. The EPA is coordinating with OSHA during their rulemaking to determine the most efficient mechanism to avoid duplication and ensure that both EPA and OSHA receive adequate notice without unduly burdening industry.

Renotification

Comment: Numerous comments were received on the proposed renotification requirements. Although a few favored the requirements as proposed and a few thought the requirements should be more stringent, most of the commenters favored the use of telephone renotification. The comments were as follows:

Commenter IV-D-28 disagreed with the NADC comment in the proposal preamble that renotification by telephone should be allowed; commenter IV-D-28 recommended a 10-day written notice for all projects.

Commenter IV-D-21 suggested that the renotification provisions be made more flexible by allowing the actual start date to vary by a couple of days for projects lasting longer than 5 days before requiring the owner/operator to renotify.

Commenters IV-D-21, IV-D-25, IV-D-26, IV-D-36, IV-D-37, IV-D-41, IV-D-42, IV-D-45, IV-D-46, IV-D-49, IV-D-50, IV-D-58, IV-D-59, IV-D-60, IV-D-61, IV-D-62, IV-D-65, IV-D-69, IV-D-71, IV-D-73, IV-D-74, IV-D-76, IV-D-87, IV-D-88, and IV-D-94 suggested that EPA allow the use of some other means besides certified mail for renotification, such as same day telephone or telefax messages, when a 5-day written notice would further delay the project. This would be simpler and less time-consuming. Commenter IV-D-41 also suggested that, when it is feasible to provide a 5-day written notice, i.e., delays are known at least 5 days in advance, then such notice would be provided. Also, as commenters IV-D-46, IV-D-49, IV-D-50, IV-D-58, IV-D-60, IV-D-62, IV-D-69, and IV-D-73 suggested, a telephone notice could be followed by a written notice.

According to commenters IV-D-23, IV-D-24, IV-D-36, IV-D-37, IV-D-41, IV-D-42, IV-D-43, IV-D-45, IV-D-46, IV-D-49, IV-D-50, IV-D-51, IV-D-58, IV-D-59, IV-D-63, IV-D-64, IV-D-73, IV-D-75, IV-D-76, IV-D-78, IV-D-87, IV-D-88, and IV-D-94, there are numerous unforeseen factors, such as equipment mobilization problems, personnel availability, weather, or other project difficulties, that can cause a removal project to start on a date other than the one submitted in the original notification. These commenters explained that the proposed renotification requirements, with their additional waiting requirements, could result in unreasonable project delays and significantly increased project costs. Several of these commenters and commenter IV-D-84 suggested that EPA allow a project to start within some reasonable period of time, such as a couple of days, of the original start date without having to renotify EPA in writing. The EPA should provide for some flexibility in predicting the exact start date. In the experience of one of the commenters, jobs usually start within a day or two of the scheduled date.

Response: The EPA agrees that a 10-day advance notice is appropriate for demolitions and renovations that can be planned for and scheduled. In some situations, however, such as emergency renovations or government-ordered demolition of buildings that are in danger of imminent collapse, EPA considers shorter notification periods appropriate. For renotification, a 10-day additional waiting period would be excessively burdensome.

The EPA has considered the suggestion that telephone renotification be permitted and has determined that providing for the use of the telephone, followed by a written notice, would provide the necessary flexibility and would be in the best interests of both

the regulated community and EPA. The EPA does not want to interfere with commerce by requiring a 5-day waiting period for a written renotification when a telephone call followed by a written renotification would suffice. Nor does EPA wish to make useless visits to jobs that have been rescheduled because a written renotification of a change in start date was not received in time.

Emergency Renovation

Comment: Commenters IV-D-9, IV-D-14, IV-D-41, IV-D-42, and IV-D-49 stated that the scope of the term "emergency renovation operation" should not be limited to events resulting in "unsafe conditions," but should include events such as fires, ruptured pipes, boiler failures, and other situations that could present potential public health or safety hazards if not immediately attended to. Commenter IV-D-18 asked if the definition would include the release of asbestos into the air. Commenter IV-D-63 recommended that the definition include operations necessary to protect equipment from significant damage.

Response: Events that would necessitate an emergency renovation include those that may produce immediately unsafe conditions as well as those that, if not quickly remedied, could reasonably be foreseen to result in an unsafe or detrimental effect on health. For example, a boiler in an apartment building that suddenly malfunctions during the winter would need to be repaired immediately. To protect equipment from significant damage and to avoid imposing an unreasonable financial burden by requiring sources that experience a sudden unexpected equipment failure to wait 10 days, the final rule includes equipment damage and financial burden as additional reasons for emergency renovations, and the definition of emergency renovation is revised accordingly.

Definition of Facility

Comment: Several commenters argued that the exclusion of residential facilities having four or fewer dwelling units should be eliminated. Commenter IV-D-89 asserted that residential demolition and renovation and associated waste disposal involve significant quantities of asbestos and should be regulated. Commenter IV-D-54 argued that residential buildings having four or fewer units should not be exempt from the work practices provisions even if they are exempt from the notification requirements. Commenter IV-D-94 recommended that only facilities with one dwelling unit be excluded because renters of apartments are frequently exposed as a result of asbestos work performed by untrained workers.

Response: The recommendation to remove the exemption for residential facilities having four or fewer dwelling units would expand the scope of the rule. Revisions that alter stringency may be considered during a later rulemaking. However, EPA does not consider residential structures that are demolished or renovated as part of a commercial or public project to be exempt from this rule. For example, the demolition of one or more houses as part of an urban renewal project, a highway construction project, or a project to develop a shopping mall, industrial facility, or other private development, would be subject to the NESHAP. Nor would the conversion of a hotel or large apartment building to a condominium, a cooperative, or a loft exempt the structure from the NESHAP. To clarify that condominiums, cooperatives, and lofts which exceed four dwelling units are subject to the NESHAP, the definition of facility has been modified accordingly. The owner of a home that renovates his house or demolishes it to construct another house is not to be subject to the NESHAP.

Definition of Installation

Comment: Commenter IV-D-83 argued that the definition of "installation" needs clarification and asks whether a group of residential buildings would be excluded. The commenter argued that a group of residential buildings at one location being demolished or renovated by one developer should be covered.

Response: A group of residential buildings under the control of the same owner or operator is considered an installation according to the definition of "installation" and is, therefore, covered by the rule. As an example, several houses located on highway right-of-way that are all demolished as part of the same highway project would be considered an "installation," even when the houses are not proximate to each other. In this example, the houses are under the control of the same owner or operator, i.e., the highway agency responsible for the highway project.

Training

Comment: Commenters IV-D-18 and IV-D-86 recommended that a refresher course be attended every 2 years.

Response: Regarding the commenters who recommended that refresher courses be taken every 2 years, EPA agrees and has modified the rule to require refresher courses. The EPA considers such additional training important to maintain familiarity with the NESHAP as well as to keep abreast of any changes in the standards.

Sanding, Grinding, or Abrading Nonfriable ACM

Comment: Commenters IV-D-15, IV-D-47, IV-D-48, IV-D-55, IV-D-84, and IV-D-95 considered asbestos-containing flooring products, such as tile and sheet vinyl flooring, to always be nonfriable and exempt from the rule, with the exception of flooring that was being sanded (Commenters IV-D-47 and IV-D-48.)

Response: The EPA considers the deliberate sanding, grinding, or abrading (including drilling, cutting, and chipping) of all nonfriable materials, including resilient floor covering, asphalt roofing material, packings, and gaskets to be sources of asbestos emissions and the revisions require otherwise nonfriable ACM to be treated as if it were friable when it is sanded, ground or abraded.

Also, a definition of "grinding" is added to clarify the types of activities, especially those involving nonfriable asbestos materials, that are subject to the regulation. For example, typical floor tile removal methods, such as mechanical chipping, result in the floor tile being broken up into numerous small fragments. This removal method is subject to the NESHAP provision. Other floor tile removal methods available that do not result in the material being so severely damaged. Such methods include the use of heat from heat guns or electric heat machines, the use of infrared machines, flooding with water or amended water, and the use of dry ice or liquid nitrogen. These methods when properly utilized allow the tiles to be removed with a minimum of damage to the tiles and would not be subject to the NESHAP.

Definition of Nonfriable Asbestos Material

Comment: Commenters IV-D-15 and IV-D-69 asserted that the meaning of "nonfriable" is unclear because it was not defined in the revisions proposed on January 10, 1989. A problem may result if it is considered the opposite of friable. Commenter IV-D-39 also argued for a definition of "nonfriable" and asserted that, like "friable," the threshold of at least 1 percent by area should apply.

Response: The EPA agrees that the meaning of "nonfriable" needs to be clarified. A definition of "nonfriable asbestos material" has been added to the final rule. The EPA considers nonfriable asbestos material to be material containing more than 1

asbestos by area that cannot be crumbled, pulverized, or reduced to power by hand pressure. However, some nonfriable asbestos materials can be crumbled, pulverized, etc., in the course of demolition/renovation operations leading to asbestos emissions and are, therefore, subject to control under the NESHAP.

Waste Disposal

Marking

Comment: Commenters IV-D-61 and IV-D-98 asserted that the term "placard" is inappropriate because it has a specific application under DOT regulations for hazardous waste transport, and that the proposal should be revised to maintain the distinction between "marking" and "placarding" as was done in RCRA and TSCA rulemakings.

Response: The EPA has modified the final rule to replace the term "placard," a term used by the DOT in its regulation of the transportation of hazardous materials, with the term "mark" as suggested by the commenters. This should help avoid confusing DOT requirements with requirements under the NESHAP.

Labeling

Comment: Commenters IV-D-18, IV-D-28, IV-D-41, and IV-D-84 recommended that EPA in Section 61.150, and perhaps elsewhere, cite only OSHA labels and delete references to other labels because OSHA requires the use of their labels in all cases.

Response: The EPA agrees with the commenters who suggest that only OSHA labels be required on containers and has revised the final rule accordingly.

Offsite Disposal

Comment: Two commenters were concerned with placarding and other requirements of § 61.149(d). Commenter IV-D-22 stated that his company moves tailings from the mill by dump truck or earth-moving equipment to a disposal site on company property and would like the requirements for placards, etc., in § 61.149(d) changed so that they would apply only to transport to an offsite disposal facility.

Commenter IV-D-93 also suggested that the requirements of § 61.149(d) should apply only to vehicles transferring waste offsite.

Response: Although company personnel may not require a warning that asbestos waste is being transported, others who are on site and who are not company employees, e.g., vendor and construction personnel, clearly do. Further, OSHA requires that workers be informed of hazards to which they are exposed. Accordingly, EPA believes the provisions of § 61.149(d) are appropriate as proposed and should not be changed as suggested.

EPA Identification Number

Comment: Several comments addressed the proposal to assign identification numbers to generators of asbestos waste. Most of the commenters found the requirement confusing. Commenters IV-D-9 and IV-D-49 stated that the system of using EPA identification numbers is confusing and misleading and should be subject to public comment rather than tacked onto the final version of the amendments. Commenter IV-D-25 wondered how the system is to operate and whether they would use the number they already have for hazardous waste. Commenter IV-D-26 was unclear as to who the generator would be and suggested that the abatement contractor be considered the generator. Commenter IV-D-28 thought that this requirement would generate a list of one-time generators, and that it should be deferred for further study. Commenter IV-D-41 asked if RCRA hazardous waste identification numbers were going to be assigned to asbestos waste generators. As explained by commenter IV-D-61, not all generators will have an EPA identification number as required in § 61.150(d)(1)(i) and (4)(i). Commenters IV-D-62 and IV-D-63 expressed confusion over the proposed identification number and urged that a single number be assigned to an entire company, rather than to each building or facility. Commenter IV-D-18 asked how the identification numbers are to be determined and assigned; is it to be done now; and, if the program is delegated to a State or local program, would this require a State identification number?

Response: Because of the confusion expressed by all the commenters over how a system of assigning identification numbers to asbestos waste generators would work, EPA has reconsidered this revision and has decided to delete the requirement for an identification number. The EPA is confident that, even without such a unique numbering system, it will be possible to track waste shipments for the purpose of pursuing enforcement actions.

Semiannual Reports

Comment: Commenter IV-D-4 opposed semiannual reporting by generators or disposal sites but recommended exception reporting by both. Commenter IV-D-9 noted that semiannual reporting is also redundant in view of the Superfund Amendments and Reauthorization Act (SARA) Title III regulations. Commenters IV-D-28, IV-D-39, IV-D-41, IV-D-75, and IV-D-83 asserted that EPA should delete the semiannual reporting requirement in § 61.150(d)(4) because it is redundant since the information is also provided on the waste tracking form and will just add more paperwork. Commenter IV-D-94 was concerned that small, rural landfills will use the proposed recordkeeping requirements as an excuse to refuse to accept asbestos waste, which could increase illegal dumping. Commenter IV-D-94 stated that the regulation in effect prior to the January 10, 1989, proposal should be retained.

Commenters IV-D-24, IV-D 61, and IV-D-62 noted that most waste shipment reporting now occurs on an annual basis and that they preferred annual to semiannual reporting. Commenter IV-D-41 recommended that EPA adopt the biennial reporting used by EPA's Office of Solid Waste (OSW). Commenter IV-D-65 stated that, if necessary, EPA should supplement the existing biennial RCRA report.

Commenter IV-D-63 asserted that it is unnecessary for the generator to submit semiannual waste disposal reports. Commenter IV-D-81 stated that the proposal imposes redundant reporting requirements on owners/operators due to § 61.150(c)(4).

Commenter IV-D-51 argued that industrial landfills on site that are subject to RCRA and State statutes should be exempt from the reporting and recordkeeping requirements of § 61.150(d). Commenter IV-D-55 stated that § 61.150(d) does not define adequately who keeps disposal records and who submits semiannual reports. Commenter IV-D-55 felt that building owners are unfamiliar with the report called for in § 61.150(d)(4).

Response: Upon additional consideration of this provision, EPA has decided to omit the requirement for semiannual reporting from today's rule. This decision is based in part on several comments opposing semiannual reporting as unnecessary. In addition, because of the large commitment of enforcement resources that would be required for such a system to properly function, EPA believes that the proposal is overly ambitious at this time. The EPA believes, however, that enforcement can use the available information and adequately identify violators by comparing the waste records that are required to be kept by waste generators and waste disposal sites. At this time, a more workable

solution will be to require disposal sites to report to EPA whenever there is a discrepancy between the amount of waste received and the amount reported on the waste shipment papers. The discrepancy report should be submitted to the same agency that was notified of the demolition or renovation and, if different, to the agency responsible for administering the NESHAP program for the disposal site. In addition, new and existing disposal sites will be required to comply with the general reporting provisions of 40 CFR part 61. Specifically, new disposal sites will be required to comply with the requirement to apply for approval to construct (§ 61.07), and the requirements to notify EPA of startup dates (§ 61.09). Existing disposal sites that will accept asbestos waste after the effective date of the rule will be required to supply EPA with certain information concerning their operations (§ 61.10). This information will assist enforcement in tracking asbestos waste.

Excepted Waste Shipment Report

The proposed revisions included a requirement for waste generators to indicate, as part of a semiannual report to the Administrator, waste shipments for which 35 days or more have elapsed since the waste was shipped without the waste generator having received a copy of the WSR signed and dated by the disposal site owner or operator. While EPA has determined that semiannual reports are not necessary, it considers this requirement a vital part of the asbestos waste tracking system and a provisions for excepted waste shipment reports is included in the final rule.

Waste Conversion Processes

Comment: Commenter IV-D-21 asked that procedures for sample preparation for TEM be clarified; that comminution size of particle reduction be specified; that the standard or interim method of analysis that is acceptable be identified; and that laboratory qualifications meeting requirements of the National Institute of Standards and Technology (NIST) and AHERA be identified.

Response: Currently EPA has no protocol for TEM analysis of output materials. The final rule requires the owner or operator of waste conversion processes to submit a protocol for sampling and analysis by TEM for approval by EPA.

V. Administrative

The docket is an organized and complete file of all the information considered by EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated revisions and EPA responses to significant comments, the contents of the docket, except for interagency review materials, will serve as the record in case of judicial review (section 307(d)(7)(A)).

The effective date of this regulation is November 20, 1990. Section 112 of the Clean Air Act provides that standards of performance or revisions thereof become effective upon promulgation except that in the case of an existing source, the standard shall not apply until 90 days after its effective date.

As prescribed by section 112, the promulgation of these standards was preceded by the Administrator's determination that asbestos presents a significant risk to human health as a result of air emissions from one or more source categories and is therefore a hazardous air pollutant (36 FR 3031, dated March 31, 1971). In accordance with section 117 of the Act, publication of these promulgated standards was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies.

Section 317 of the Clean Air Act requires the Administrator to prepare an economic impact assessment for any new standard promulgated under section 112 of the Act. Since the costs of the revision will be small, an economic impact assessment was not considered necessary for this regulation.

Information collection requirements associated with this regulation (those included in 40 CFR part 60, subpart A and subpart XXX) have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* and have been assigned OMB control number (2060-0101).

Under Executive Order 12291, EPA is required to judge whether a regulation is a "major rule" and therefore subject to the requirements of a regulatory impact analysis (RIA). The Agency has determined that this regulation would result in none of the adverse economic effects set forth in section 1 of the Order as grounds for finding a regulation to be a "major rule." The Agency has, therefore, concluded that this regulation is not a "major rule" under Executive Order 12291.

The Regulatory Flexibility Act of 1980 requires the identification of potentially adverse impacts of Federal regulations upon small business entities. The Act specifically requires the completion of a Regulatory Flexibility Analysis in those instances where small business impacts are possible. Because these standards impose no adverse economic impacts, no Regulatory Flexibility Analysis has been conducted.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small entities.

List of Subjects in 40 CFR Part 61

Asbestos, Beryllium, Benzene, Hazardous substances, Mercury, Reporting and recordkeeping requirements, Vinyl chloride, Blast furnaces, Steel mills.

Dated: October 29, 1990.

William K. Reilly,

Administrator.

40 CFR part 61 is amended as follows:

PART 61—[AMENDED]

1. The authority citation for 40 CFR part 61, subpart M, is revised to read as follows:

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

2.–3. Section 61.140 is revised to read as follows:

§ 61.140 Applicability.

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

4. In § 61.141, the following definitions are revised: "Asbestos-containing waste materials," "Commercial asbestos," "Demolition," "Emergency renovation operation," "Fabricating," "Facility," "Facility component," "Friable asbestos materials," "Inactive waste disposal site," "Manufacturing," "Outside air," "Particulate asbestos material," "Planned renovation operation," "Remove," "Renovation," "Roadways," "Strip," and "Visible emissions."

The following definitions are added: "Adequately wet," "Category I nonfriable ACM," "Cutting," "Category II nonfriable ACM," "Fugitive sources," "Glove bag," "Grinding," "In poor condition," "Installation," "Leak-tight," "Malfunction," "Natural barrier," "Nonfriable asbestos-containing material," "Nonscheduled renovation operation," "Owner or operator of a demolition or a renovation activity," "Regulated asbestos-containing material," "Resilient floor covering," "Waste generator," "Waste shipment record," and "Working day."

The definitions, "Adequately wett and "Asbestos material," are removed.

§ 61.141 Definitions.

* * * * *

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

* * * * *

Asbestos-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 renovations operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

* * * * *

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

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

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

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

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

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

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

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

Facility component means any part of a facility including equipment.

Friable asbestos material means any material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763 section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

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

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

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

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

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

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

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

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

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

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

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

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

Outside air means the air outside buildings and structures, including, but

not limited to, the air under a bridge or in an open air ferry dock.

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

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

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

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

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

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

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

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

Strip means to take off RACM from any part of a facility or facility components.

* * * * *

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.

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

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

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

5. Section 61.142 is revised to read as follows:

§ 61.142 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 § 61.152 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, includin to the maximum extent possible witho dismantling other than opening the device, the presence of tears, holes, and abrasions in filter bags and for dust deposits on the clean side of bags. For air cleaning devices that cannot be inspected on a weekly basis according to this paragraph, submit to the Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

(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 eac air cleaning device.

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

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

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

BILLING CODE 6560-50-M

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

Figure 1. Record of Visible Emission Monitoring

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)

Figure 2. Air Cleaning Device Inspection Checklist

BILLING CODE 6560-50-C

6. Section 61.143 is revised to read as follows:

§ 61.143 Standard for roadways.

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

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

(b) It is a temporary roadway at an active asbestos mill site and is encapsulated with a resinous or bituminous binder. The encapsulated road surface must be maintained at a minimum frequency of one 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.

7. In § 61.144, paragraph (a)(9) and paragraphs (b) (1) and (2) are revised, and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.144 Standards for manufacturing.

(a) * * *

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

* * * * *

(b) * * *

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

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

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

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

(i) Maintenance schedule.

(ii) Recordkeeping plan.

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

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

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

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

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

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

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

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

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

8. Sections 61.146 and 61.147 are removed, and § 61.145 is revised to read as follows:

§ 61.145 Standard for demolition and renovation.

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

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

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

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

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

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

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

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

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

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

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

(iii) To determine whether paragraph (a)(4) of this section applies to planned renovation operations involving individual nonscheduled operations, predict the combined additive amount of RACM to be removed or stripped during a calendar year of January 1 through December 31.

(iv) To determine whether paragraph (a)(4) of this section applies to emergency renovation operations, estimate the combined amount of RACM to be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(5) Owners or operators of demolition and renovation operations are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(b) *Notification requirements.* Each owner or operator of a demolition or

renovation activity to which this section applies shall:

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

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

(3) Postmark or deliver the notice as follows:

(i) At least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge or similarly disturb asbestos material), if the operation is described in paragraphs (a) (1) and (4) (except (a)(4)(iii) and (a)(4)(iv)) of this section. If the operation is as described in paragraph (a)(2) of this section, notification is required 10 working days before demolition begins.

(ii) At least 10 working days before the end of the calendar year preceding the year for which notice is being given for renovations described in paragraph (a)(4)(iii) of this section.

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

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

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

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

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

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

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

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

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

(4) Include the following in the notice:

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

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

(iii) Type of operation: demolition or renovation.

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

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

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

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

(viii) Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of this section.

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

(x) Description of planned demolition or renovation work to be performed 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 engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

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

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

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

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

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

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

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

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

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

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

(ii) It is on a facility component that encased in concrete or other similar

hard material and is adequately wet whenever exposed during demolition: or

(iii) It was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wet at all times until disposed of.

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

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

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

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

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

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

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

(B) The owner or operator uses of the following emission control methods:

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

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

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

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

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

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

(i) Adequately wet the RACM during stripping; 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 § 61.152.

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

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

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

(iii) The leak-tight wrapping is labeled according to § 61.149(d)(1)(i), (ii), and (iii) during all loading and unloading operations and during storage.

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

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

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

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

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

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

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

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

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

(8) Effective 1 year after promulgation of this regulation, no RACM shall be stripped, removed, or otherwise handled or disturbed at a facility regulated by this section unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of this regulation and the means of complying with them, is present. Every 2 years, the trained on-site individual shall receive refresher training in the provisions of this regulation. The required training shall include as a minimum: applicability; notifications; material identification; control procedures for removals including, at least, wetting, local exhaust ventilation, negative pressure enclosures, glove-bag procedures, and High Efficiency Particulate Air (HEPA) filters; waste disposal work practices; reporting and recordkeeping; and asbestos hazards and worker protection. Evidence that the required training has been completed shall be posted and made available for inspection by the Administrator at the demolition or renovation site.

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

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

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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:		Tel:

REMOVAL CONTRACTOR:

Address:

City:	State:	Zip:
Contact:		Tel:

OTHER OPERATOR:

Address:

City:	State:	Zip:
Contact:		Tel:

III. TYPE OF OPERATION (D=Demo O=Ordered Demo R=Renovation E=Emer.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:	# of Floors:	Age in Years:
Present Use:	Prior Use:	

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

VII. APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING: 1. Regulated ACM to be removed 2. Category I ACM Not Removed 3. 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:

VIII. SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Complete:

IX. SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Complete:

Continued on page two

Figure 3. Notification of Demolition and Renovation

NOTIFICATION OF DEMOLITION AND RENOVATION (continued)

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:		
XII. WASTE TRANSPORTER #1		
Name:		
Address:		
City:	State:	Zip:
Contact Person:		Telephone:
WASTE TRANSPORTER #2		
Name:		
Address:		
City:	State:	Zip:
Contact Person:		Telephone:
XIII. WASTE DISPOSAL SITE		
Name:		
Location:		
City:	State:	Zip:
Telephone:		
XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:		
Name:	Title:	
Authority:		
Date of Order (MM/DD/YY):	Date Ordered to Begin (MM/DD/YY):	
XV. FOR EMERGENCY RENOVATIONS		
Date and Hour of Emergency (MM/DD/YY):		
Description of the Sudden, Unexpected Event:		
Explanation of how the event caused unsafe conditions or 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 NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.		
XVI. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)		
(Signature of Owner/Operator)		(Date)
XVII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.		
(Signature of Owner/Operator)		(Date)

Figure 3. Notification of Demolition and Renovation

BILLING CODE 6560-50-C

9. Section 61.148 is redesignated as § 61.146 and is amended by revising paragraphs (a), the introductory text of (b), paragraph (b)(2), and paragraph (d) to read as follows:

§ 61.146 Standard for spraying.

* * * * *

(a) For spray-on application on buildings, structures, pipes, and conduits, do not use material containing more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, on equipment and machinery, except as provided in paragraph (c) of this section:

* * * * *

(2) Discharge no visible emissions to the outside air from spray-on application of the asbestos-containing material or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

* * * * *

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

10. Section 61.149 is redesignated as § 61.147, paragraphs (b) (1) and (2) are revised, and paragraphs (b)(3) through (b)(8) are added to read as follows:

§ 61.147 Standard for fabricating.

* * * * *

(b) * * *

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

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

(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 Administrator, and revise as necessary, a written maintenance plan to include, at a minimum, the following:

(i) Maintenance schedule.

(ii) Recordkeeping plan.

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

(i) Date and time of each inspection.

(ii) Presence or absence of visible emissions.

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

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

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

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

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

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

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

11. Section 61.150 is redesignated as § 61.148 and revised to read as follows:

§ 61.148 Standard for insulating materials.

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

12. Section 61.151 is redesignated as § 61.149 and is amended by revising paragraphs (a), (b), introductory text of (c), (c)(1) (ii) and (iii), and (c)(2), and adding new paragraphs (d) through (f) to read as follows:

§ 61.149 Standard for waste disposal for asbestos mills.

* * * *

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

(b) Discharge no visible emissions to the outside air from the transfer of control device asbestos waste to the tailings conveyor, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.150(a) or paragraph (c) of this section; and

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

(1) * * *

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

* * * *

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

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

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

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

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

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

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

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

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

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

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

Legend
DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only
Notation
2.5 cm (1 inch) Sans Serif, Gothic or Block
2.5 cm (1 inch) Sans Serif, Gothic or Block
1.9 cm (¾ inch) Sans Serif, Gothic or Block
14 Point Gothic

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

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

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

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

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

(ii) The name and address of the local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.

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

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site location of the disposal site.

(vi) The date transported.

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

(viii) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

(2) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the initial transporter, contact the transporter and/or the owner or operator of the designated disposal site to determine the status of the waste shipment.

(3) Report in writing to the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(4) Retain a copy of all waste shipment records, including a copy of the waste shipment record signed by the owner or operator of the designated waste disposal site, for at least 2 years.

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

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

(Continued)

Figure 4. Waste Shipment Record

INSTRUCTIONS

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.

2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.

3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.

4. Provide the name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program.

5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is

   - Friable asbestos material
   - Nonfriable asbestos material

6. Enter the number of containers used to transport the asbestos materials listed in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):

   DM - Metal drums, barrels
   DP - Plastic drums, barrels
   BA - 6 mil plastic bags or wrapping

7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).

8. Use this space to indicate special transportation, treatment, storage or disposal or Bill of Lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.

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

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

(continued)

Figure 4. Waste Shipment Record

Transporter Section (Items 10 & 11)

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

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

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste actually received as well as any improperly enclosed or contained waste. Any rejected materials should be listed and destination of those materials provided. A site that converts asbestos-containing waste material to nonasbestos material is considered a WDS.

13. The signature (by hand) of the authorized WDS agent indicates acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

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

Figure 4. Waste Shipment Record

BILLING CODE 6560-50-C

13. Section 61.152 is redesignated as § 61.150 and is revised to read as follows:

§ 61.150 Standard for waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations.

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

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

(1) Adequately wet asbestos-containing waste material as follows:

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

(ii) Discharge no visible emissions to the outside air from collection, mixing, wetting, and handling operations, or use the methods specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air; and

(iii) After wetting, seal all asbestos-containing waste material in leak-tight containers while wet; or, for materials that will not fit into containers without additional breaking, put materials into leak-tight wrapping; and

(iv) Label the containers or wrapped materials specified in paragraph (a)(1)(iii) of this section using warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.1001(j)(2) or 1926.58(k)(2)(iii). The labels shall be printed in letters of sufficient size and contrast so as to be readily visible and legible.

(v) For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and the location at which the waste was generated.

(2) Process asbestos-containing waste material into nonfriable forms as follows:

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

(ii) Discharge no visible emissions to the outside air from collection and processing operations, including incineration, or use the method specified by § 61.152 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(3) For facilities demolished where the RACM is not removed prior to demolition according to §§ 61.145(c)(1)(i), (ii), (iii), and (iv) or for facilities demolished according to § 61.145(c)(9), 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 paragraph do not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk.

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

(5) As applied to demolition and renovation, the requirements of paragraph (a) of this section do not apply to Category I nonfriable ACM waste and Category II nonfriable ACM 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 § 61.154, or

(2) An EPA-approved site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos-free) material according to the provisions of § 61.155.

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

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

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

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

(iii) The approximate quantity in cubic meters (cubic yards).

(iv) The name and telephone number of the disposal site operator.

(v) The name and physical site 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 paragraph (d)(1) of this section, to the disposal site owners or operators at the same time as the asbestos-containing waste material is delivered to the disposal site.

(3) For waste shipments where a copy of the waste shipment record, signed by the owner or operator of the designated disposal site, is not received by the waste generator within 35 days of the date the waste was accepted by the 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 NESHAP program for the waste generator if a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, is not received by the waste generator within 45 days of the date the waste was accepted by the initial transporter. Include in the report the following information:

(i) A copy of the waste shipment record for which a confirmation of delivery was not received, and

(ii) A cover letter signed by the waste generator explaining the efforts taken to locate the asbestos waste shipment and the results of those efforts.

(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 2 years.

(e) Furnish upon request, and make available for inspection by the Administrator, all records required under this section.

14. Section 61.153 is redesignated as § 61.151 and is amended by revising the introductory text, paragraphs (a)(2), (a)(4), and (b)(3), and adding paragraphs (d) and (e) to read as follows:

§ 61.151 Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations.

Each owner or operator of any inactive waste disposal site that was operated by sources covered under

§§ 61.142, 61.144, or 61.147 and received deposits of asbestos-containing waste material generated by the sources, shall:

(a) * * *

(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

* * * * *

(4) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in paragraphs (a)(1), (2), and (3) of this section. Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Administrator to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

(b) * * *

(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.

* * * * *

(d) Notify the Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under this section, 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 Administrator at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

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

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

(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 § 61.154(f) have been filed with the Administrator; and

(3) The site is subject to 40 CFR part 61, subpart M.

15. Section 61.154 is redesignated as § 61.152 and amended by removing paragraph (a)(1)(i), redesignating paragraphs (a)(1)(ii)–(iv) as paragraphs (a)(1)(i)–(iii), redesignating paragraph (b)(2) as paragraph (b)(3), revising the introductory text of paragraph (a) and paragraphs (b)(1) and (b)(3), and adding paragraphs (a)(3) and (b)(2) to read as follows:

§ 61.152 Air cleaning.

(a) The owner or operator who uses air cleaning, as specified in §§ 61.142(a), 61.144(b)(2), 61.145(c)(3)(i)(B)(1), 61.145(c)(4)(ii), 61.145(c)(11)(i), 61.146(b)(2), 61.147(b)(2), 61.149(b), 61.149(c)(1)(ii), 61.150(a)(1)(ii), 61.150(a)(2)(ii), and 61.155(e) shall:

* * * * *

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

(b) * * *

(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 paragraphs (a)(1) and (b)(1) and (2) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos materia

16. Section 61.155 is redesignated § 61.153 and amended by redesignating paragraphs (a)(3) and (a)(4) as paragraphs (a)(4) and (a)(5), respectively, revising the introductory text of paragraphs (a), (a)(4), and (a)(5) and revising paragraphs (a)(2), (a)(4)(ii) and (iii), and (b), and adding paragraph (a)(3) to read as follows:

§ 61.153 Reporting.

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

* * * * *

(2) If a fabric filter device is used to control emissions,

(i) The airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$) 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 g/m^2 (oz/yd^2), the minimum thickness in millimeters (inches), and the airflow permeability in $m^3/min/m^2$ ($ft^3/min/ft^2$).

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

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

* * * * *

(ii) The average volume of asbestos-containing waste material disposed of, measured in m^3/day (yd^3/day); and

(iii) The emission control methods used in all stages of waste disposal; and

* * * * *

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

* * * * *

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

17. Section 61.156 is redesignated as § 61.154 and amended by revising the introductory text of § 61.154, paragraphs (c) and (d), and adding paragraphs (e) through (j) to read as follows:

§ 61.154 Standard for active waste disposal sites.

Each owner or operator of an active waste disposal site that receives asbestos-containing waste material from a source covered under §§ 61.149, 61.150, or 61.155 shall meet the requirements of this section:

* * * * *

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

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

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

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

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

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

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

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

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

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

(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 NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program for the disposal site. 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 paragraph for at least 2 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 § 61.151.

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

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

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

(1) Scheduled starting and completion dates.

(2) Reason for disturbing the waste.

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

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

18. Section 61.155 is added to subpart M to read as follows:

§ 61.155 Standard for operations that convert asbesto-containing waste material into nonasbestos (asbestos-free) material.

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

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

(1) Application to construct pursuant to § 61.07.

(2) In addition to the information requirements of § 61.07(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 paragraph (b) of this section.

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

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

(1) A detailed description of the types and quantities of nonasbestos material, RACM, and asbestos-containing waste material processed, *e.g.*, asbestos cement products, friable asbestos 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 8-hour composite samples (one 200-gram (7-ounce) sample per hour), beginning with the initial introduction of RACM or asbestos-containing waste material and continuing until the end of the performance test.

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

(5) The length of the test.

(c) During the initial 90 days of operation.

(1) Continuously monitor and log the operating parameters identified during start-up performance tests that are intended to ensure the production of nonasbestos (asbestos-free) output material.

(2) Monitor input materials to ensure that they are consistent with the test feed materials described during start-up performance tests in paragraph (b)(1) of this section.

(3) Collect and analyze samples, taken as 10-day composite samples (one 200-gram (7-ounce) sample collected every 8 hours of operation) of all output material for the presence of asbestos. Composite samples may be for fewer than 10 days. Transmission electron microscopy (TEM) shall be used to analyze the output material for the presence of asbestos. During the initial 90-day period, all output materials must be stored on-site until analysis shows the material to be asbestos-free or disposed of as asbestos-containing waste material according to § 61.150.

(d) After the initial 90 days of operation.

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

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

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

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

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

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

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

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

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

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

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

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

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

(7) Retain records required by paragraph (f) of this section for [illegible] years.

(g) Submit the following reports to the Administrator:

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

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

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

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

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

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

(h) Nonasbestos (asbestos-free) output material is not subject to any of the provisions of this subpart. Output materials in which asbestos is d[illegible]d, or output materials produced wi[illegible] operating parameters deviated fr[illegible] those established during the start-up performance testing, unless shown by TEM analysis to be asbestos-free, shall be considered to be asbestos-containing waste and shall be handled and disposed of according to §§ 61.150 and 61.154 or reprocessed while all of the established operating parameters are being met.

19. Section 61.156 is added to subpart M to read as follows:

§ 61.156 Cross-reference to other asbestos regulations.

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

(Adopted October 6, 1989)(Amended April 8, 1994)
(Amended November 3, 2006)(Amended October 5, 2007)

RULE 1403. ASBESTOS EMISSIONS FROM DEMOLITION/RENOVATION ACTIVITIES

(a) Purpose

The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials (ACWM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

(b) Applicability

This rule, in whole or in part, is applicable to owners and operators of any demolition or renovation activity, and the associated disturbance of asbestos-containing material, any asbestos storage facility, or any active waste disposal site.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ACTIVE WASTE DISPOSAL SITE is any disposal site that receives, or has received or processed ACWM within the preceding 365 calendar days.

(2) ADEQUATELY WET is the condition of being sufficiently mixed or penetrated with amended water to prevent the release of particulates or visible emissions. The process by which an adequately wet condition is achieved is by using a dispenser or water hose with a nozzle that permits the use of a fine, low-pressure spray or mist.

(3) AMENDED WATER is water to which a chemical wetting agent or surfactant has been added to improve penetration into ACM.

(4) ASBESTOS is the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, actinolite or tremolite.

(5) ASBESTOS-CONTAINING MATERIAL (ACM) is both friable asbestos-containing material or Class I nonfriable asbestos-containing material.

(6) ASBESTOS-CONTAINING WASTE MATERIAL (ACWM) is any waste that contains commercial asbestos and that is generated by a source subject to the provisions of this rule. ACWM includes, but is not limited to, ACM which is friable, has become friable, or has a high probability of becoming friable, or has been subjected to sanding, grinding, cutting, or abrading, and the waste generated from its disturbance, such as asbestos waste from control devices, particulate asbestos material, asbestos slurries, bags or containers that previously contained asbestos, used asbestos-contaminated plastic sheeting and clothing, and clean-up equipment waste, such as cloth rags or mop heads.

(7) ASBESTOS HAZARD EMERGENCY RESPONSE ACT (AHERA) is the act which legislates asbestos-related requirements for schools (40 CFR 763, Subpart E).

(8) ASSOCIATED DISTURBANCE of ACM or Class II nonfriable ACM is any crumbling or pulverizing of ACM or Class II nonfriable ACM, or generation of uncontrolled visible debris from ACM or Class II nonfriable ACM.

(9) CLASS I NONFRIABLE ASBESTOS-CONTAINING MATERIAL is material containing more than one percent (1%) asbestos as determined by paragraph (h)(2), and that, when dry, can be broken, crumbled, pulverized, or reduced to powder in the course of demolition or renovation activities. Actions which may cause material to be broken, crumbled, pulverized, or reduced to powder include physical wear and disturbance by mechanical force, such as, but not limited to, sanding, sandblasting, cutting or abrading, improper handling or removal or leaching of matrix binders. Class I nonfriable asbestos-containing material includes, but is not limited to, fractured or crushed asbestos cement products, transite materials, mastic, roofing felts, roofing tiles, cement water pipes and resilient floor covering.

(10) CLASS II NONFRIABLE ASBESTOS-CONTAINING MATERIAL is all other material containing more than one percent (1%) asbestos as determined by paragraph (h)(2), that is neither friable nor Class I nonfriable.

(11) COMMERCIAL ASBESTOS is any material containing asbestos that is extracted from asbestos ore.

(12) CUTTING is penetrating with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

(13) DEMOLITION is the wrecking or taking out of any load-supporting structural member of a facility and related handling operations or the intentional burning of any facility.

(14) EMERGENCY DEMOLITION is a demolition ordered by a governmental agency for the purpose of eliminating peril to the safety of persons, property or the environment resulting from hazards such as collapse, fire, crime, disease, or toxic contamination or other hazard as determined by the Executive Officer.

(15) EMERGENCY RENOVATION is any renovation that was not planned and results from a sudden unexpected event that results in unsafe conditions. Such events include, but are not limited to, renovations necessitated by non-routine failures of equipment, earthquake or fire damage. An economic burden alone, without a sudden, unexpected event, does not give rise to conditions that meet this definition.

(16) ENCAPSULATION is the treatment of ACM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).

(17) ENCLOSED STORAGE AREA means a storage room, drum, roll-off container, other hard-sided container, or fenced area that is designed to be securely closed with a lock.

(18) FACILITY is any institutional, commercial, public, industrial or residential structure, installation, building; any ship; and any active waste disposal site. A facility is subject to this rule regardless of its current use or function. For example, a facility destroyed by fire, explosion, or natural disaster, including any debris, remains subject to this rule's provisions.

(19) FACILITY COMPONENT is any part of a facility including foundations and or utility/commodity pipelines; and equipment such as but not limited to heaters, boilers, HVAC, and motors.

(20) FRIABLE ASBESTOS-CONTAINING MATERIAL is material containing more than one percent (1%) asbestos as determined by paragraph (h)(2), that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

(21) GLOVEBAG is a sealed compartment with attached inner gloves used for handling ACM. When properly installed and used, glove bags provide a small work area enclosure used for small-scale asbestos stripping operations. Information on glovebag installation, equipment, and supplies, and work practices is contained in the Occupational Safety and Health Administration's final rule on occupational exposure to asbestos (Appendix G to 29 CFR 1926.1101(g)).

(22) 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 micrometer in diameter or larger.

(23) INSTALLATION is 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 central control).

(24) ISOLATED WORK AREA is the immediate enclosed containment area in which the asbestos abatement activity takes place.

(25) LEAK-TIGHT is the condition whereby any contained solids or liquids are prevented from escaping or spilling out.

(26) LOCKED means rendered securely closed and able to be opened only with a key or access code.

(27) NONSCHEDULED RENOVATION OPERATION is a renovation operation necessitated by the routine failure of equipment, which is expected to occur within a given calendar year based on past operating experience, but for which an exact date cannot be predicted.

(28) OUTSIDE AIR is air outside of the facility or outside of the isolated work area.

(29) OWNER or OPERATOR OF A DEMOLITION OR RENOVATION ACTIVITY is any person who owns, leases, operates, controls or supervises activities at the facility being demolished or renovated; the demolition or renovation operation; or both.

(30) PERSON is any individual, firm, association, organization, partnership, business, trust, corporation, company, contractor, supplier, installer, user or owner, or any state or local government agency or public district or any other officer or employee thereof. PERSON also means the United States or its agencies to the extent authorized by Federal law.

(31) PLANNED RENOVATION is a renovation operation, or a number of such operations, in which the amount of ACM that will be removed or stripped within a given period of time can be predicted. Individual nonscheduled renovation operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

(32) PROJECT is any renovation or demolition activity, including site preparation and clean-up activity.

(33) REMOVAL is the taking out of ACM or facility components that contain or are covered with ACM from any facility.

(34) RENOVATION is the altering of a facility or the removing or stripping of one or more facility components in any way, including, but not limited to, the stripping or removal of ACM from facility components, retrofitting for fire protection, and the installation or removal of heating, ventilation, air conditioning (HVAC) systems. Activity involving the wrecking or taking out of load-supporting structural members are demolitions.

(35) RESIDENTIAL SINGLE UNIT DWELLING is a structure that contains only one residential unit. Apartment buildings, townhouses, and condominiums are not residential single unit dwellings.

(36) RESILIENT FLOOR COVERING is asbestos-containing floor tile, including asphalt and vinyl floor tile, and sheet vinyl floor covering containing more than one percent (1%) asbestos as determined by paragraph (h)(2).

(37) STRIPPING is the taking off of ACM from any part of a facility or facility component.

(38) STRUCTURAL MEMBER is 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.

(39) WASTE GENERATOR is any person who owns or operates a source subject to the provisions of this rule according to subdivision (b), and whose act or process produces ACWM.

(40) WASTE SHIPMENT RECORD is the shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of ACWM as specified by the provisions of subdivision (f).

(41) WORKING DAY is Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

(d) Requirements

A person subject to this rule shall prevent emissions of asbestos to the outside air by complying with the following requirements:

(1) Demolition and Renovation Activities

The owner or operator of any demolition or renovation activity shall comply with the following requirements:

(A) Facility Survey

(i) The affected facility or facility components shall be thoroughly surveyed for the presence of asbestos prior to any demolition or renovation activity. The survey shall include the inspection, identification, and quantification of all friable, and Class I and Class II non-friable asbestos-containing material, and any physical sampling of materials.

(ii) A thorough survey shall include, at a minimum, identification of all affected materials at the facility, including but not limited to all layers of flooring materials to the joist level, and all material in the wall or ceiling cavities as necessary to identify and sample them.

(iii) The survey shall be documented with the following information:

(I) The name, address, and telephone number of the person who conducted the survey;

(II) A written statement of the qualifications of the person who conducted the survey, demonstrating compliance with clause (d)(1)(A)(iv);

(III) The dates the survey was conducted;

(IV) A listing of all suspected materials containing any asbestos, a listing of all samples collected, and a sketch of where the samples were taken;

(V) The name, address, and telephone number of any laboratory used to conduct analyses of materials for asbestos content;

(VI) A statement of qualification of the laboratory which conducted the analyses, demonstrating compliance with paragraph (h)(2);

(VII) A list of the test methods used, demonstrating compliance with subdivision (h), including sampling protocols and laboratory methods of analysis, test data, and any other information used to identify or quantify any materials containing asbestos; and

(VIII) A general description of the condition of the facility, including but not limited to a description of any obvious fire or structural damage.

(iv) Persons conducting asbestos surveys in accordance with subparagraph (d)(1)(A) shall be certified by Cal/OSHA pursuant to regulations required by subdivision (b) of Section 9021.5 of the Labor Code, and shall have taken and passed an EPA-approved Building Inspector Course and conform to the procedures outlined in the Course.

(B) Notification

The District shall be notified of the intent to conduct any demolition or renovation activity. Notifications shall be submitted in a District-approved format which may include but not be limited to U.S. mail, telephone, facsimile, digital, internet, and e-mail. Telephone, facsimile, digital, and e-mail notifications shall be confirmed with follow-up written notifications to the District postmarked or delivered to the District within 48 hours from submitting the telephone, facsimile, digital, or e-mail notification. No notification shall be considered received unless it is accompanied by the required fee pursuant to Rule 301, as part of the required written notification. Notifications shall be provided in accordance with the following requirements:

(i) Time Schedule

(I) Demolition or Renovation Activities

The notification shall be submitted to the District no later than 10 working days before any demolition or renovation activities other than emergency

demolition, emergency renovation, or planned renovations involving individual nonscheduled renovation operations begin.

(II) Planned Renovation - Annual Notification

The District shall be notified by December 17 of the year preceding the calendar year for which notice is being given for planned renovation activities which involve individual nonscheduled renovation operations.

(III) Emergency Demolition or Renovation

The District shall be notified as soon as possible, but prior to any emergency demolition or renovation activity.

(ii) Notification Required Information

All notifications shall include the following information:

(I) An indication of whether the notice is the original or a revised notification;

(II) Name, address and telephone number of both the owner and operator of the facility, supervising person, and the asbestos removal contractor, owner or operator;

(III) Address and location of the facility to be demolished or renovated and the type of operation: demolition or renovation;

(IV) Description of the facility or affected part of the facility to be demolished or renovated including the size (square meters or square feet and number of floors), age, and present or prior uses of the facility;

(V) The specific location of each renovation or demolition at the facility and a description of the facility components or structural members contributing to the ACM to be removed or stripped from the facility;

(VI) Scheduled project starting and completion dates of demolition or renovation. Notifications shall also include the ACM removal starting and completion

dates for demolition or renovation; planned renovation activities involving individual nonscheduled renovation operations need only include the beginning and ending dates of the report period as described in subclause (d)(1)(B)(i)(II);

(VII) Brief description of work practices and engineering controls to be used to comply with this rule, including asbestos removal and waste handling emission control procedures;

(VIII) A separate estimate for each of the amounts of friable, Class I, and Class II nonfriable asbestos-containing material to be removed from the facility in terms of length of pipe in linear feet, surface area in square feet on other facility components, or volume in cubic feet if off the facility components. The total as equivalent surface area in square feet shall also be reported;

(IX) Name and location of waste disposal site where ACWM will be deposited.

(X) Description of steps to be followed in the event that unexpected ACM is found or Class II nonfriable asbestos-containing material becomes crumbled, pulverized, or reduced to powder;

(XI) California State Contractors License Certification number;

(XII) Cal/OSHA Registration number;

(XIII) Name and location address of off-site storage area for ACWM;

(XIV) Name, address, and telephone number of transporters used to transport ACWM off-site;

(XV) Procedures, including analytical methods, used to detect the presence of friable and nonfriable asbestos-containing material; and

(XVI) Signed certification that at least one person trained as required in subparagraph (d)(1)(G) will supervise

the stripping and removal described by this notification.

(iii) Emergency Demolition Additional Information

Notification of all emergency demolition activities shall include the following additional information

(I) The agency, name, title, telephone number and authority of the representative who ordered the emergency demolition; and

(II) A copy of the order, and the date on which the demolition was ordered to begin.

(iv) Emergency Renovation Additional Information

Notification of all emergency renovation activities shall include the following additional information:

(I) The name and phone number of the responsible manager or authorized person who is in charge of the emergency renovation;

(II) The date and hour that the emergency occurred;

(III) A description of the sudden, unexpected event;

(IV) An explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden; and.

(V) A signed letter from the person directly affected by the emergency, such as the property owner or property manager, attesting to the circumstances of the emergency.

(v) Notification Updates

All notifications shall be updated when any of the following conditions arise:

(I) Change in Quantity of Asbestos

A change in the quantity of affected asbestos of 20 percent or more from the notified amount shall be reported to the District as soon as the information becomes available, but not later than the project end date, unless otherwise specified in an approved Procedure 5.

(II) Later Starting Date

A delay in the starting date of any demolition or renovation activity shall be reported to the District as soon as the information becomes available, but no later than the original start date.

(III) Earlier Starting Date

A change in the starting date of any demolition or renovation activity to an earlier starting date shall be reported to the District no later than 10 working days before any demolition or renovation activities begin.

(IV) Completion Date Change

Changes in the completion date shall be reported to the District at least 2 calendar days before the original scheduled completion date. In the event renovations or demolitions are not completed, are delayed or are completed ahead of schedule, the District shall be notified as soon as possible, but no later than the following business day.

(V) Planned Renovation Progress Report

Notifications for on-going planned renovation operations in which the scheduled starting and completions dates are more than 1 year apart shall be updated, every year of the operation by December 17, unless the most recent written notification update was postmarked or delivered after October 1 of that year and include the amount of ACM removed and the amount of ACM remaining to be removed.

(C) Asbestos Removal Schedule

Material containing asbestos shall be removed from a facility according to the following schedule:

(i) Burning Demolitions

All ACM and Class II asbestos-containing material shall be removed from a facility prior to any demolition by intentional burning. All demolition by intentional burning

shall be performed in accordance with Rule 444 – Open Burning.

(ii) Renovations and Non-Burning Demolitions

(I) All ACM shall be removed from a facility being demolished or renovated before any non-burning demolition or renovation activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal.

(II) ACM not accessible for testing or not discovered until after the renovation or demolition activities begin may be removed after the start of the renovation or non-burning demolition activities, pursuant to the appropriate procedure in subparagraph (d)(1)(D).

(III) Notwithstanding the above, asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products which are not friable and are not crumbled, cut, abraded, or otherwise not damaged and in good condition, may be removed after the start of renovation or non-burning demolition activities if prior approval from the District is obtained (Procedure 5).

(IV) If the renovation or demolition activity involves any mechanical force such as, but not limited to, sanding, sandblasting, cutting, or abrading and thus would render the materials friable, they must be removed prior to the renovation or demolition.

(V) If for any reason, any renovation or demolition results in an associated disturbance of ACM or Class II nonfriable ACM outside of a containment or work area then, prior to continuing with any renovation or demolition activity, the owner/operator shall secure, stabilize and survey the affected facility areas and submit and obtain an

approved Procedure 5 plan, prior to any asbestos clean-up.

(D) Removal Procedures

(i) One or more of the following procedures shall be used when removing or stripping ACM:

(I) Procedure 1 - HEPA Filtration

Remove ACM within an isolated work area. The following techniques shall be used during Procedure 1 ACM removal activities:

(1) All stationary objects and surfaces not intended for removal or stripping of ACM shall be covered with plastic sheeting;

(2) All air passageways, such as doors, windows, vents and registers in the work area, shall be covered and rendered air tight with plastic sheeting or hard wooden barriers with studded support. Air passageways used to provide makeup air for the isolated work space need not be covered;

(3) All sources of air movement, including the air-handling system, shall be shut off or temporarily modified to restrict air movement into the work zone;

(4) The barriers used for the construction of the isolated work area shall be equipped with transparent viewing ports which allow outside observation of all stripping and removal of ACM;

(5) The isolated work area shall be vented, with negative air pressure to a HEPA filtration system, which shall be operated continuously from the commencement of removal activities through the final clean-up of the work area;

(6) The HEPA filter shall be free of tears, fractures, holes or other types of damage and

shall be securely latched and properly situated in the holding frame to prevent air leakage from the filtration system; and

(7) ACM shall be adequately wet during the removal process.

(II) Procedure 2 - Glovebag

Remove by the glovebag method or minienclosures designed and operated according to 29 CFR Section 1926.1101(g), Appendix G, and current Cal/OSHA requirements.

(III) Procedure 3 - Adequate Wetting

Procedure 3 shall only be used to remove nonfriable asbestos-containing materials, using the following techniques:

(1) All exposed ACM shall be adequately wet during cutting or dismantling procedures.

(2) ACM shall be adequately wet while it is being removed from facility components and prior to its removal from the facility.

(3) Drop cloths and tenting shall be used to contain the work area to the extent feasible.

(4) Only non-power tools shall be used.

(IV) Procedure 4 - Dry Removal

Obtain written approval from the Executive Officer's designee prior to using dry removal methods for the control of asbestos emissions when adequate wetting procedures in the renovation work area would unavoidably damage equipment or present a safety hazard. Dry removal methods may include one or more of the following:

(1) Use of a HEPA filtration system, operated in accordance with subclause (d)(1)(D)(i)(I), within an isolated work area;

(2) Use of a glovebag system, operated in accordance with subclause (d)(1)(D)(i)(II); or

(3) Use of leak-tight wrapping or an approved alternative, to contain all ACM removed in units or sections prior to dismantlement.

(V) Procedure 5 - Approved Alternative

(1) Use an alternative combination of techniques and/or engineering controls. Written approval from the Executive Officer or his designee shall be obtained prior to the use of a Procedure 5 Approved Alternative.

(2) The Executive Officer may pre-approve specific combinations of techniques and/or engineering controls in writing, which may be used by any person as a Procedure 5 Approved Alternative, subject to such conditions and limitations as required by the Executive Officer.

(3) No person shall use a Procedure 5 Approved Alternative without complying with all of the conditions and limitations set forth therein.

(ii) Specific procedure requirements

(I) No person shall remove or strip ACM or Class II nonfriable ACM that has suffered damage from fire, explosion, or natural disaster without the use of a Procedure 5 Approved Alternative.

(E) Handling Operations

All ACWM shall be collected and placed in transparent, leak-tight containers or wrapping. The following techniques shall be used.

(i) ACM shall be carefully lowered to the ground or a lower floor without dropping, throwing, sliding, or otherwise damaging or disturbing the ACM;

(ii) ACM which has been removed or stripped more than 50 feet above ground level and was not removed as units or in

sections shall be transported to the ground via leak-tight chutes or containers;

(iii) ACWM shall be collected, and sealed in leak-tight containers. ACWM shall be adequately wet prior to and during collection and packaging. Alternatively, areas of Class I nonfriable asbestos-containing material which have become friable or have been subjected to sanding, grinding, cutting, or abrading, may be sealed via encapsulation; and

(iv) All surfaces in the isolated work area shall be cleaned, with a vacuum system utilizing HEPA filtration, wet mopping and wipe down with water, or by an equivalent method~~s~~, prior to the dismantling of plastic barriers or sealed openings within the work area.

(F) Freezing Temperature Conditions

When the temperature at the point of wetting is below 0^{o}C (32^{o}F), the wetting provisions of subparagraph (d)(1)(D) shall be superseded by the following requirements:

(i) Facility components containing, coated with, or covered with ACM shall be removed as units or in sections to the maximum extent possible; and

(ii) The temperature in the area containing the facility components shall be recorded at the beginning, middle, and end of each workday during periods when wetting operations are suspended due to freezing temperatures. Daily temperature records shall be available for inspection by the District during normal business hours at the demolition or renovation site. Records shall be retained for at least 2 years.

(G) On-Site Representative

At least one on-site representative, such as a foreman, manager, or other authorized representative, trained in accordance with the provisions of paragraphs (i)(1) and (i)(3), shall be present during the stripping, removing, handling, or disturbing of ACM. Evidence that the required training has been completed shall be posted at the demolition or renovation site and made available for inspection by the Executive Officer's designee.

(H) On-Site Proof

The following shall be maintained on-site and shall be provided to the District upon request:

(i) California State Contractor's License certification number;

(ii) Cal/OSHA Registration number;

(iii) copies of surveys, conducted pursuant to subparagraph (d)(1)(A); and

(iv) copies of notifications submitted pursuant to subparagraph (d)(1)(B).

Proof shall be consistent with the most recently updated information submitted in the notification.

(I) On-Site Storage

No ACWM shall be stored on-site except in a leak-tight container. When leak-tight containers are not in use, they shall be kept inside an enclosed storage area. The enclosed storage area shall not be accessible to the general public and shall be locked when not in use.

(J) Disposal

All ACWM shall be disposed of at a waste disposal site that is operated in accordance with paragraph (d)(3) of this rule.

(K) Container Labeling

Leak-tight containers which contain ACWM shall be labeled as specified in subdivision (e).

(L) Transportation Vehicle Marking

Vehicles used to transport ACWM shall be marked, as specified in subdivision (e), during the loading and unloading of ACWM.

(M) Waste Shipment Records

Waste Shipment Records shall be prepared and handled in accordance with the provisions of paragraph (f)(1).

(N) Recordkeeping

Records shall be kept as specified in subdivision (g).

(2) ACWM Storage Facilities

The owner or operator of any ACWM storage facility shall comply with the following requirements:

(A) Maintenance and Handling

(i) ACWM shall be stored in leak-tight containers;

(ii) All leak-tight containers shall be labeled as specified in paragraph (e)(1); and

(iii) ACWM shall be stored in an enclosed locked area.

(B) Transportation Vehicle Marking

Vehicles used to transport ACWM shall be marked, as specified in paragraph (e)(3), during the loading and unloading of ACWM.

(C) Waste Shipment Records

Waste Shipment Records shall be handled in accordance with the provisions of paragraph (f)(2).

(D) Recordkeeping

Records shall be maintained as specified in paragraph (g)(2).

(3) Active Waste Disposal Sites

The owner or operator of any waste disposal site where ACWM is being deposited shall comply with the following requirements:

(A) Maintenance and Handling

(i) ACWM shall be in leak-tight containers;

(ii) Warning signs, as specified in paragraph (e)(2), shall be displayed at all entrances and at intervals of 330 feet or less along the property line of the site or along the perimeter of the sections of the site where ACWM is being deposited;

(iii) Access to the general public shall be deterred by maintaining a fence along the perimeter of the site or by using a natural barrier;

(iv) All ACWM shall be maintained in a separate disposal section;

(v) ACWM deposited at the site shall be covered with at least six (6) inches of nonasbestos-containing material at the end of normal business hours. The waste shall be compacted only after it has been completely covered with nonasbestos-containing material. A low pressure water spray or nontoxic dust suppressing chemical shall be used for any surface wetting after compaction; and

(vi) ACWM shall be covered with a minimum of an additional thirty (30) inches of compacted nonasbestos-containing material prior to final closure of the waste disposal site, and shall be maintained to prevent exposure of the ACWM.

(B) Transportation Vehicle Marking

Vehicles used to transport ACWM shall be marked, as specified in paragraph (e)(3), during the loading and unloading of ACWM.

(C) Waste Shipment Records

Waste Shipment Records shall be handled in accordance with the provisions of paragraph (f)(2).

(D) Recordkeeping

Records shall be maintained as specified in paragraph (g)(3).

(e) Warning Labels, Signs, and Markings

Warning labels, signs, and markings shall be used to identify asbestos related health hazards and comply with the following requirements:

(1) Leak-Tight Containers

Leak tight containers shall be labeled according to the following requirements:

(A) Warning labels for leak-tight containers and wrapping shall have letters of sufficient size and contrast as to be readily visible and legible, and shall contain the following information, or as 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), or current Cal/OSHA requirements:

CAUTION

Contains Asbestos Fibers

Avoid Opening or Breaking Container

Breathing Asbestos is Hazardous to Your Health

or

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

(B) Leak-tight containers that are transported off-site shall be labeled with the name of the waste generator and the location at which the waste was generated. The location description shall include the street address.

(2) Active Waste Disposal Sites

No person shall operate an active waste disposal site unless warning signs are conspicuously posted and meet the following:

(A) Are displayed in such a manner and location that a person can easily read the legend;

(B) Conform to the requirements for 51 cm x 36 cm (20 inch x 14 inch) upright format signs specified in 29 CFR 1910.145 (d)(4) and this paragraph;

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

Legend	Notation
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

; and

(D) Have spacing between any two lines at least equal to the height of the upper of the two lines.

(3) Transportation Vehicles

Markings for transportation vehicles shall:

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

(B) Conform to the requirements for 51 cm x 36 cm (20 inch x 14 inch) upright format signs specified in 29 CFR 1910.145 (d)(4) and this paragraph; and

(C) 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	Notation
DANGER	2.5 cm (1 inch) Sans Serif, Gothic or Block
ASBESTOS DUST HAZARD	2.5 cm (1 inch) Sans Serif, Gothic or Block
CANCER AND LUNG DISEASE HAZARD	1.9 cm (3/4 inch) Sans Serif, Gothic or Block
Authorized Personnel Only	14 Point Gothic

; and

(D) Have spacing between any two lines at least equal to the height of the upper of the two lines.

(f) Waste Shipment Records

(1) Waste Generators

A waste generator shall comply with the following:

(A) Waste shipment information shall include, but not be limited to, the following:

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

(ii) The name, address, and telephone number of the South Coast Air Quality Management District;

(iii) The quantity of ACWM in cubic meters or cubic yards;

(iv) The name and telephone number of the disposal site owner and 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; and

(viii) A signed certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and in proper condition for highway transport according to applicable federal, state, and local regulations.

(B) A copy of the Waste Shipment Record shall be provided to the disposal site owner or operator at the same time the ACWM is delivered to the disposal site.

(C) If a copy of the Waste Shipment Record, signed by the owner or operator of the designated disposal site, is not received within 35 days of the date the ACWM was accepted by the initial transporter, the transporter and/or the owner or operator of the designated disposal site shall be contacted to determine the status of the waste shipment.

(D) If a copy of the Waste Shipment Record, signed by the owner or operator of the designated disposal site, is not received within 45 days of the date the ACWM was accepted by the initial transporter, a written report shall be submitted to the District and shall include the following:

(i) A copy of the Waste Shipment Record for which a confirmation of delivery was not received; and

(ii) A signed cover letter explaining the efforts taken to locate the ACWM shipment and the results of those efforts.

(2) Storage and Active Waste Disposal Facilities

The owner or operator of any storage facility or active waste disposal site shall comply with the following requirements:

(A) Waste shipment information shall be filled out on the Waste Shipment Record forms provided by the waste generator, for all ACWM received from an off-site facility, and shall include, but not be limited to, the following:

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

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

(iii) The quantity of ACWM received in cubic meters or cubic yards; and

(iv) The date of receipt.

(B) No shipment of ACWM shall be received from an off-site facility unless it is accompanied with a completed Waste Shipment Record signed by the waste generator.

(C) If there is a discrepancy between the quantity of ACWM designated in the Waste Shipment Record and the quantity actually received, and if the discrepancy cannot be resolved with the waste generator within 15 days of the date the ACWM was received, a written report shall be filed with the District. The report shall include the following:

(i) A copy of the Waste Shipment Record; and

(ii) A signed cover letter explaining the discrepancy, and the attempts to reconcile it.

(D) If any shipment of ACWM is not properly containerized, wrapped, or encapsulated, a written report shall be filed with the District. The report shall be postmarked or delivered within 48 hours after the shipment is received, or the following business day.

(E) A signed copy of the Waste Shipment Record shall be provided to the waste generator no later than 30 calendar days after the ACWM is delivered to the disposal site.

(g) Recordkeeping

(1) Demolition and Renovation Activities

The owner or operator of any demolition or renovation activity shall maintain the following records for not less than three (3) years and make them available to the District upon request:

(A) A copy of all survey-related documents;

(B) A copy of all submitted notifications. A copy of the most recently updated written notification submitted in accordance with the provisions of this rule shall be maintained on-site;

(C) A copy of all written approvals obtained under the requirements of subparagraph (d)(1)(D);

(D) A copy of all Waste Shipment Records;

(E) All training informational materials used by an owner or operator to train supervisors or workers for the purposes of this rule; and

(F) A copy of all supervisors and workers training certificates and any annual reaccreditation records which demonstrate EPA-approved or state accreditation to perform asbestos-related work.

(2) Storage Facilities

The owner or operator of any storage facility shall maintain a copy of all Waste Shipment Records on site for not less than three (3) years and make them available to the District upon request.

(3) Active Waste Disposal Sites

The owner or operator of an active waste disposal site shall maintain the following information on site for not less than three (3) years and make them available to the District upon request:

(A) A description of the active waste disposal site, including the specific location, depth and area, and quantity, in cubic meters or cubic yards, of ACWM within the disposal site on a map or diagram of the disposal area;

(B) A description of the methods used to comply with waste disposal requirements; and

(C) A copy of all Waste Shipment Records.

(4) In lieu of the requirements of paragraph (g)(1), the owner or operator of a renovation activity at any facility, in which less than 100 square feet of surface area of ACM on facility components is removed or stripped, may instead elect to maintain the following information for a period of not less than three (3) years, and make it available to the District upon request:

(A) A copy of all survey-related documents;

(B) Records containing an estimate of the amount of ACM removed or stripped at each renovation subject to this paragraph;

(C) Type of removal controls used for each renovation; and

(D) A copy of all Waste Shipment Records.

(h) Sampling Protocols and Test Methods

(1) Sampling of materials suspected to contain asbestos, to comply with this rule, shall be conducted following the provisions of 40 CFR Part 763.86.

(2) Analysis of materials for asbestos, to comply with this rule, shall be determined by using SCAQMD Method 300-91 as detailed in the District's *Laboratory Methods of Analysis for Enforcement Samples* manual, or by using the Method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy. Asbestos analyses performed to comply with this rule must be undertaken by laboratories accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

(i) Training Requirements

The owner or operator performing a demolition or renovation activity shall provide asbestos-related training as follows:

(1) On-site supervisory personnel shall successfully complete the Asbestos Abatement Contractor/Supervisor course pursuant to the Asbestos Hazard Emergency Response Act (AHERA), and obtain and maintain accreditation as an AHERA Asbestos Abatement Contractor/Supervisor.

(2) Workers shall successfully complete the Abatement Worker course pursuant to the AHERA.

(3) Supervisory personnel and workers shall be trained on the provisions of this rule as well as on the provisions of 40 CFR Part 61.145, 61.146, 61.147 and 61.152 (Asbestos NESHAP provisions) and Part 763, and the means by which to comply with these provisions.

(j) Exemptions

(1) The notification requirements of subparagraph (d)(1)(B) and the training requirements of subdivision (i) shall not apply to renovation activities, other than planned renovation activities which involve non-scheduled renovation operations, in which less than 100 square feet of surface area of ACM are removed or stripped.

(2) The notification requirements of subparagraph (d)(1)(B) and the training requirements of subdivision (i) shall not apply to planned renovation activities which involve non-scheduled renovation operations, in which the total quantity of ACM to be removed or stripped within each calendar year of activity is less than 100 square feet of surface area.

(3) Clauses (d)(1)(A)(iii)(V), (VI), and (VII) and subclause (d)(1)(B)(ii)(XV) shall not apply to the owner or operator of any renovation or demolition activity, when the suspected material is treated as ACM when being removed, stripped, collected, handled, and disposed of in accordance with the provisions of this rule.

(4) The portion of clause (d)(1)(A)(iv) which requires Cal/OSHA certification shall not apply to persons performing work not subject to the certification requirement established by regulations pursuant to the Labor Code, Section 6501.5.

(5) Subclause (d)(1)(B)(ii)(XI) and clause (d)(1)(H)(i), requiring a California State Contractors License Certification number, shall not apply to persons

performing work not subject to the certification requirement established pursuant to the Business and Professions Code, Section 7058.5.

(6) Subclause (d)(1)(B)(ii)(XII) and clause (d)(1)(H)(ii), requiring Cal/OSHA registration, shall not apply to persons performing work not subject to the registration requirement established pursuant to the Labor Code, Section 6501.5

(7) The provisions of subparagraph (f)(2)(E) shall not apply to storage facilities that do not meet the definition of an active waste disposal site as defined by paragraph (c)(1).

(8) The handling requirements of phrases (d)(1)(D)(i)(I)(2), (d)(1)(D)(i)(I)(5), and (d)(1)(D)(i)(I)(6), the training requirements of paragraphs (i)(1) and (i)(2), the reporting of training certificate requirement of subclause (d)(1)(B)(ii)(XVI), and the on-site proof of training requirement of subparagraph (d)(1)(G) and subdivision (i) shall not apply to the exclusive removal of asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products which are not friable, have not become friable, and have not been subjected to sanding, grinding, cutting, or abrading.

(9) The provisions of this rule shall not apply to an owner-occupant of a residential single-unit dwelling who personally conducts a renovation activity at that dwelling.

(10) The survey requirements of subparagraph (d)(1)(A) shall not apply to renovation activities of residential single-unit dwellings in which less than 100 square feet of surface area of ACM are removed or stripped.

7. Work Practices

DRAFT ADMINISTRATIVE GUIDELINE

Rule 1403 - Asbestos Emissions from Demolition/Renovation Activities

Class 1 Nonfriable Asbestos-Containing Material
Guidelines for Acceptable Work Practices/ Procedures

Effective January 1, 1990, South Coast Air Quality Management District Rule 1403 (*Asbestos Emissions from Demolition/Renovation Activities*) will impose specific work practice requirements for demolition and renovation activities and the associated disturbance of asbestos-containing material(s) (ACM), as well as the storage and disposal of asbestos-containing waste. Rule 1403 augments current Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) in several areas, including work practice techniques for the removal of nonfriable ACM to further reduce asbestos emissions to outside ambient air.

Nonfriable ACM is a term used to describe the asbestos fibers bound within materials that generally restrict fiber release. Such materials may include cement, vinyl, plaster, paper, and asphalt. Nonfriable ACM has the potential of releasing fibers if the matrix is not intact, or if it is worn or disturbed by means of mechanical action. Due to the hazard associated with nonfriable ACM and its high potential for fiber release, removal of certain types of nonfriable material, referred to in Rule 1403 as Class 1 nonfriable asbestos-containing material, will require specified work practice techniques to ensure minimum asbestos fiber release.

Rule 1403 defines asbestos-containing material as both **friable** and **Class 1 nonfriable**. Friable ACM is material which, when dry, can be broken, crumbled, pulverized, or reduced to powder by hand pressure and that contains more than one percent (> 1%) asbestos by area or by weight as determined by Polarized Light Microscopy with Dispersion Staining. Class 1 Nonfriable ACM is nonfriable material containing more than one percent (> 1%) asbestos by area or by weight and that can **potentially** be broken, crumbled, pulverized, or reduced to powder in the course of demolition or renovation activities. Nonfriable ACM may become friable when physically worn, disturbed by mechanical force, such as, but not limited to, sanding, sandblasting, cutting or scraping; when improperly handled, removed, or disposed of; or when matrix binders are leached.

Nonfriable ACM that may be rendered friable includes, but is not limited to, fractured or crushed asbestos cement products, transite siding, mastic, roofing felts, cement water pipes, and asbestos-containing floor covering.

Pursuant to Rule 1403 (*Asbestos Emissions from Demolition/Renovation Activities*), the following administrative guidance, "Class 1 Nonfriable Asbestos-Containing Material -- Guidelines for Acceptable Work Practices/Procedures" is established.

For the purpose of these administrative guidelines, the definitions set forth in Rule 1403(c) shall apply.

Procedures for Removal/Disturbance of Class 1 Nonfriable Vinyl Asbestos Floor Covering

The following work practice requirements are for the manual removal/disturbance of asbestos-containing floor covering (i.e., sheet vinyl, vinyl floor tile, pre-existing flooring, and adhesive). Mechanical removal or disturbance practices (grinding, sanding, sandblasting, shot-peening, power chipping, etc.) of vinyl asbestos floor covering, floor backing, lining felt, residual felt, and underlayment will require full compliance with all Rule 1403 requirements. HEPA vacuuming equipment will be operated in compliance with Rule 1403(d)(1)(D)(i)(III) provisions.

Certification Requirements

- Supervisors must have completed EPA-approved state accreditation training (Asbestos Hazards Emergency Response Act [AHERA] course) or equivalent.

- Workers must be able to demonstrate a working knowledge of current acceptable asbestos work practices (including proper handling and disposal), removal techniques, asbestos properties and recognition.

- In the event Class 1 nonfriable asbestos-containing material is handled in such a way as to render it friable, workers shall be trained in accordance with Rule 1403 requirements.

Preparation

- Remove all objects not fastened to existing structure from work area prior to commencement of removal activities.

- Cover all stationary objects and surfaces not intended for removal or stripping of asbestos-containing material (ACM). Cover and render air-tight all air passageways (such as, but not limited to, doors, windows, vents, skylights, air circulating units, and registers) in the work area, with plastic sheeting or hard wooden barriers with studded support. This does not include air passageways used to provide makeup air for the isolated work space.

- Shut off or temporarily modify the air-handling system and restrict other sources of air movement into the work zone.

Removal and Handling

- Adequately wet with amended water the area(s) to be worked prior to the initiation of the removal process. Amended water will be used continually throughout the work period to ensure that any asbestos-containing material (ACM) exposed by manual force is wet and remains wet until final disposal.

- The wetting solution shall be applied with airless spray or low-pressure spray equipment to avoid displacement and dispersal of asbestos fibers.

- Only manual pry bars, scrapers, and chisels may be used to remove asbestos-containing floor covering. All efforts shall be made to limit breaking and chipping of the material while the floor covering is being loosened.

- If areas are encountered where vinyl floor tiles cannot be removed without excessive breakage, the removal procedure can be simplified by thoroughly heating the vinyl floor tile(s) using a hot air blower until the heat penetrates through the tile and softens the adhesive.

- As small areas of floor covering are removed:
  - Place wetted material immediately in leak-tight storage containers or plastic bags (6 mil thickness recommended). Do not attempt to break sheet vinyl floor covering or vinyl floor tiles after placing in storage containers or bags; or
  - Immediately encapsulate all broken corners and edges of Class 1 nonfriable asbestos-containing floor covering. Fully encapsulated material need not be sealed in leak-tight containers or wrapping.
- Scrape the excess felt backing, lining felt, residual felt underlayment, pre-existing flooring, and adhesive from the floor surface while adequately wetting with amended water. Do not grind, sand, shot-peen, or sandblast adhesive or mastic. Do not dry scrape.
- Gather remaining wetted asbestos-containing waste material debris on floors using floor squeegee or similar tool. Do not use tools or devices which would cause debris to become airborne (i.e., brooms, blowers, etc.)
- Place wetted debris immediately in leak-tight storage containers or plastic bags (6 mil thickness recommended).
- Visually inspect HEPA filtration system(s) at the isolated work area upon installation, and after relocation or HEPA filter replacement. Examine HEPA filter for tears, fractures, holes, or other types of damage. Ensure that the latching mechanism is intact and properly situated in the holding frame.
- Clean all surfaces in the work area using HEPA vacuuming or wet mopping, and wipe down with water or equivalent methods prior to dismantling plastic or wooden barrier(s) or sealed opening(s) within the work area.

- Remaining wetted asbestos-containing waste materials, including plastic or wooden barriers, shall be placed in leak-tight containers or sealed plastic bags (6 mil thickness recommended).

- Maintain on-site storage of encapsulated materials or leak-tight containers within an enclosed storage area prior to transportation. Leak-tight containers and encapsulated material shall not be accessible to the general public and shall be locked when not in use.

- All asbestos-containing waste material will be placed in leak-tight containers that will not allow the material to escape during movement from work areas to disposal container or transport vehicle.

Procedures for Removal/Disturbance of Class 1 Nonfriable Asbestos-Containing Transite Panels

The following work practice requirements are for the manual removal/disturbance of asbestos-containing transite panels. Mechanical removal practices or disturbance of transite material (sanding, drilling, cutting, abrasive blasting, shot-peening, etc.) will require full compliance with all Rule 1403 requirements and provisions.

Certification Requirements

- Supervisors must have completed EPA-approved state accreditation training (Asbestos Hazards Emergency Response Act [AHERA] course) or equivalent.

- Workers must be able to demonstrate a working knowledge of current acceptable asbestos work practices (including proper handling and disposal), removal techniques, asbestos properties and recognition.

- In the event Class 1 nonfriable asbestos-containing material is handled in such a way as to render it friable, workers shall be trained in accordance with Rule 1403 requirements.

Preparation

- When panels are located above ground level, panel removal will be performed from open scaffolding or hoist.

- Cover and render air-tight all air passageways (such as, but not limited to, doors, windows, vents, skylights, air circulating units, vents and registers) in the work area, and the back side of the exterior wall within the ceiling cavity area of the work area, with plastic sheeting or hard wooden barriers with studded support.

- Use plastic sheeting catch devices secured at the structure foundation to contain incidental falling transite debris.

Removal and Handling

- Adequately wet with amended water the area(s) to be worked prior to the initiation of the removal process. Amended water will be used continually throughout the work period to ensure that any asbestos-containing material, exposed by manual force, is wet and remains wet until final disposal.

- The wetting solution shall be applied with airless spray or low-pressure spray equipment to avoid displacement and dispersal of asbestos fibers.

- Only hand tools may be used to remove transite panels. All efforts will be made to minimize panel breakage.

- Immediately encapsulate all broken corners and edges of Class 1 nonfriable asbestos-containing transite panels. Fully encapsulated material need not be sealed in leak-tight containers or wrapping.

- Panels located above ground level must be carefully lowered intact to the ground without dropping, throwing, sliding, or otherwise damaging the asbestos-containing material. Transport the asbestos-containing material to the ground via enclosed chute(s) or container(s) when removal occurs

more than fifty (50) feet above ground level. Smaller pieces, broken panels, and debris must be bagged prior to lowering.

- o Following transport of intact transite panels to ground level, place wetted material immediately in leak-tight storage containers, plastic wrap, or plastic bags (6 mil thickness recommended). Do not attempt to break transite panels after placing in storage containers, wrap, or bags.

- o Gather remaining wetted asbestos-containing waste material debris on floors from catch devices and plastic barriers. Place wetted debris immediately in leak-tight storage containers or plastic bags (6 mil thickness recommended). Do not use tools or devices which would cause debris to become airborne (i.e., brooms, blowers, etc.)

- o Maintain on-site storage of encapsulated materials or leak-tight containers within an enclosed storage area prior to transportation. Leak-tight containers and encapsulated material shall not be accessible to the general public and shall be locked when not in use.

- o All asbestos-containing waste material will be placed in leak-tight containers that will not allow the material to escape while during movement from work areas to disposal container or transport vehicle.

Procedures for Removal/Disturbance of Class 1 Nonfriable Roofing Materials

The following work practice requirements are for the manual removal/disturbance of asbestos-containing roofing materials. Mechanical removal practices, other than the use of saw cutting, will require full compliance with all Rule 1403 requirements. For transite roofing tiles, HEPA vacuuming of roofing surface prior to and immediately following tile removal is required. HEPA vacuuming equipment will be operated in compliance with Rule 1403 (d)(1)(D)(i)(III) provisions.

Certification Requirements

- Supervisors must have completed EPA-approved state accreditation training (Asbestos Hazards Emergency Response Act [AHERA] course) or equivalent.

- Workers must be able to demonstrate a working knowledge of current acceptable asbestos work practices (including proper handling and disposal), removal techniques, asbestos properties and recognition.

- In the event Class 1 nonfriable asbestos-containing material is handled in such a way as to render it friable, workers shall be trained in accordance with Rule 1403 requirements.

Preparation

- Remove all objects not fastened to existing structure from work area prior to commencement of removal activities.

- Cover all stationary objects and surfaces not intended for removal or stripping of asbestos-containing roofing material. Cover and render air-tight all air passageways (such as, but not limited to, doors, windows, vents, skylights, air circulating units, vents and registers) in the work area, with plastic sheeting or hard wooden barriers with studded support.

- Confine all debris associated with roofing removal activities and prevent dispersal into the facility structure.

- Use plastic sheeting catch devices secured at the structure foundation to contain incidental falling roofing debris.

Removal and Handling

- When cleaning roof surface, do not use tools or devices which would cause debris to become airborne (i.e., brooms, blowers, high pressure rinse, etc.).

- Adequately wet with amended water the area(s) to be worked prior to the initiation of the removal process. Amended water will be used continually throughout the work period to ensure that any asbestos-containing material (ACM) exposed by manual force is wet and remains wet until final disposal.

- The wetting solution shall be applied with airless spray or low pressure spray equipment to avoid displacement and dispersal of asbestos fibers.

- All efforts shall be made to limit breaking and chipping of the material while the roofing materials is being loosened.

- Roofing material, excluding transite rooting tiles, may be cut into smaller, manageable sizes depending upon mode of transport and method of disposal.

- A penetrating encapsulant shall be used at all times during the cutting process to prevent asbestos fiber release.

- Encapsulate all broken corners and edges of Class 1 nonfriable asbestos-containing roofing materials. Fully encapsulated material need not be sealed in leak-tight containers or wrapping.

- All nonfriable roofing materials will be carried to the edge of the roof where off-loading and transport will take place by means of a chute or hoist.

- Carefully lower asbestos-containing material that has been removed in units or sections to the ground or a lower floor without dropping, throwing, sliding, or otherwise damaging the asbestos-containing material, or transport the asbestos-containing material to the ground or a lower floor via leak-tight chute(s) or container(s) when removal occurs more than fifty (50) feet above ground level and roofing materials were not removed in units or section.

- Roofing material must be immediately sealed in a leak-tight container, covered drop box, or plastic wrapping (6 mil thickness recommended).

- Immediately following removal of roofing materials from deck, apply amended water to entire exposed surface.

- Remaining wetted asbestos-containing waste materials, including plastic or wooden barriers, shall be placed in leak-tight containers or sealed plastic bags (6 mil thickness recommended).

- Maintain on-site storage of encapsulated materials or leak-tight containers within an enclosed storage area prior to transportation. Leak-tight containers and encapsulated material shall not be accessible to the general public and shall be locked when not in use.

- All asbestos-containing waste material will be placed in leak-tight containers that will not allow the material to escape during movement from work areas to disposal container or transport vehicle.

EMERGENCY ASBESTOS REMOVAL AND DEMOLITION GUIDELINES

Asbestos-containing material (ACM) is material containing one percent (1%) asbestos by weight or area. ACM was frequently used in the construction industry prior to 1980. The following guidelines have been developed to ensure proper handling and removal of debris from buildings which are:

- o More than ten years old;
- o Made with roofing material, floor tiles, acoustic ceilings, insulation, sound-proofing, transite cement pipes, heating ducts, pipe coverings, etc., which are suspected to contain asbestos;
- o Damaged by fire, earthquake, or any other disaster;
- o In danger of imminent collapse; or
- o Unsafe to enter prior to debris removal or demolition.

To prevent possible asbestos fiber release, it is recommended that **all debris removal and demolition activities be performed using adequate wetting**.

For wetting, use a dispenser or water hose with a nozzle to produce a **fine, low-pressure spray or mist**.

Use **amended water** (water to which a chemical wetting agent has been added for improved penetration of ACM) where necessary.

Where asbestos is suspected, debris should be **adequately wetted and "burrito-wrapped" prior to disposal**.

Where asbestos has been confirmed, **debris should be stabilized by adequate wetting and covering with plastic until removed**.

Asbestos-containing material (ACM) must be handled and removed by a **licensed asbestos abatement contractor** .

All contractors, owners, or operators must **notify the District prior to proceeding with asbestos removal or demolition activities**.

All notifications must be submitted as **emergency asbestos removal and/or demolition**. If a building has been condemned by a city or county agency, indicate this fact in the notification.

Emergency notifications must be telephoned (909/396-2336) **and may additionally be transmitted by fax** (909/396-3342) to the South Coast Air Quality Management District, 21865 E. Copley Drive, Diamond Bar CA 91765-4182.

All asbestos-containing debris must be sent to an **approved landfill**.

Contact the State of California, Department of Toxics Substance Control (Cal-EPA) for **disposal and transport of hazardous materials** (818/567-3000).

For more information or to request notification forms,
call the South Coast Air Quality Management District (909/396-2336).

INFORMATION REQUIRED FOR ASBESTOS CLEAN-UP PROJECT PLANS

To receive AQMD approval for asbestos clean-up project plans pursuant to Rule 1403 (d)(1)(D)(v), **submit the following to the South Coast Air Quality Management District, Air Toxics Section,** 21865 E. Copley Drive, Diamond Bar CA 91765-4182:

- A brief written **history** describing how the site became contaminated with asbestos.

- At least one **drawing of the project site,** including streets, residences, commercial buildings, utilities, air monitoring locations and special concern buildings such as schools, hospitals, etc.

- A written **description of the asbestos found at the site,** its condition, amount, and location. Attach a copy of all laboratory test pertinent to the project and a diagram showing the asbestos locations and where the asbestos samples (bulk and air) were taken.

- **Photographs** that will assist the reviewer in understanding the project. It is important to write a description, date, and time on each photograph.

- A detailed written **description of the steps to be taken in the project.** Give the steps in chronological order with dates and time lines. Include the people to be involved, materials and machinery to be used, testing (e.g., air sampling) to be done during the project, procedures for workers and material disposal, landfill destinations and any other information needed to describe the project.

You must receive written approval of your asbestos clean-up project plans from AQMD before proceeding with any asbestos clean-up activities.

COMPARISON OF ASBESTOS ABATEMENT METHODS FOR SURFACING MATERIALS

Method	Advantages	Disadvantages	Appropriate applications	Inappropriate applications	General Comments
REMOVAL	Eliminates asbestos source Eliminates need for special operations and maintenance program	Replacement with substitute material may be necessary Porous surfaces also may require encapsulation Improper removal may raise fiber levels	Can be used in most situations		Containment barriers needed Worker protection required Wet removal is required for all types of asbestos (amosite will not absorb water or water with traditional wetting agents) Disposal may be a problem in some areas Unusual circumstances, complex surfaces, and the presence of utilities may require special removal techniques

8. Procedure 4 and 5

SCAQMD GUIDELINES FOR ASBESTOS SITE CLEAN-UPS RULE 1403 PROCEDURE 5 PLANS

Procedure 5 Plans are required to clean-up any disturbed Asbestos Containing Materials, but not limited to:

- Removal of asbestos after a renovation or non-burning demolition activity – R1403(d)(1)(C)(ii)(III),
- Clean-up of any Associated Disturbance[1] of Asbestos Containing Material – R1403(d)(1)(C)(ii)(V),
- Removal of asbestos using an alternative combination of techniques and/or engineering controls - R1403(d)(1)(D)(i)(V)(1),
- Removal of asbestos using pre-approved, specific techniques and/or engineering controls – R1403(d)(1)(D)(i)(V)(2), and
- Removal of asbestos that has suffered damage from fire, explosion, or natural disaster – R1403(d)(1)(D)(ii)(I).

Examples of asbestos abatement projects requiring Approved Alternative Procedure 5 Plans are, but not limited to:

- Clean-up of any spill or improperly removed, handled or disposed ACM, nonfriable Class II ACM or ACWM
- Decontamination of living or working areas requiring a clearance level of 0.01 f/cc[2]
- Clean-up of ACM, ACWM, and asbestos contaminated soil from crawlspaces from any site, and
- Clean-up of buried ACM or ACWM from landfills, waste sites, grading operations, etc.
- Open-air abatement of Class II nonfriable ACM using mechanical methods
- Request for using power tools to remove asbestos inside modified containments
- Demolition of "red tag" buildings (structurally unsound)
- Clean-up of ACM delamination, fallout or damage due to building settling, weathering, seismic events, improper maintenance practices, impacted during building operations, etc.

To obtain Procedure 5 Plan approval, email to asbestos_and_demolition_notifications@aqmd.gov or fax to **909-396-3342** the plan, survey, and notification with proof of fees. For after hours emergency submittals email the above information and call **800-CUTSMOG** to request expedited approval by an Asbestos Supervisor. A verbal approval may be issued in most emergency cases. Mail the signed original plan, survey, and the notification and fees to AQMD postmarked within 48 hours of AQMD approval. **For additional information, call 909-396-3739 or909-396-2318.**

The **Procedure 5 Plan** should include the following attachments prior to AQMD review:

- **Notification form** with project dates (plan can't be approved without a contractor notification or proof of fees)
- **Site survey inspection report** documenting the cause of the asbestos disturbance, extent of the site contamination, and the CAC's observations, findings, recommendations and response action(s)[3]
- Sample(s) chain of custody and the lab analysis report must be included as part of the formal survey report
- Site map, plot plan, or drawing, showing street names and nearby sensitive receptors
- Photographs (if available) with identifying notations to assist in evaluating the project
- List of companies and contacts involved in the asbestos clean-up project
- List of AQMD permitted equipment to be used in the project including serial and permit numbers
- Signature of the California Certified Asbestos Consultant (CAC) that prepared the plan, and
- CEQA Applicability Form 400 for any demolition, excavation or site grading activity exceeding 20,000 sq ft.

Plans should be brief, in outline form and not more than four pages long (in most cases) but should include the:

- Scope of the overall project
- Asbestos material(s) at the site, its condition, type, amount and specific location(s) within the site
- Abatement project stages with dates and time lines
- Provisions for site preparation and control, prevention of contamination migration, include ingress/egress zones
- Engineering work practices and asbestos emission controls
- Procedures for work area clean-up and/or decontamination after bulk removal
- Provisions for handling, storing, transporting and disposing of the asbestos containing waste
- Air monitoring type(s) and clearance level to be achieved, and
- Type and amount of asbestos remaining on site (if any) to be removed or managed in place and by whom[4]

Per R1403(d)(1)(D)(i)(V)(3) – ***"No person shall use a Procedure 5 Approved Alternative without complying with all of the conditions and limitations set forth therein"***

[1]Associated disturbance of asbestos is defined in Rule 1403(c)(8) as any crumbling or pulverizing of ACM or nonfriable Class II ACM, or generation of uncontrolled visible debris from ACM or nonfriable Class II ACM.
[2]AHERA requires aggressive air clearances for schools
[3]Survey reports must comply with R1403(d)(1)(A), 40CFR763-Subpart E, and B&P7180 requirements
[4]Removal of intact ACM and PACM remaining on site is a separate project and not covered by the plan approval.

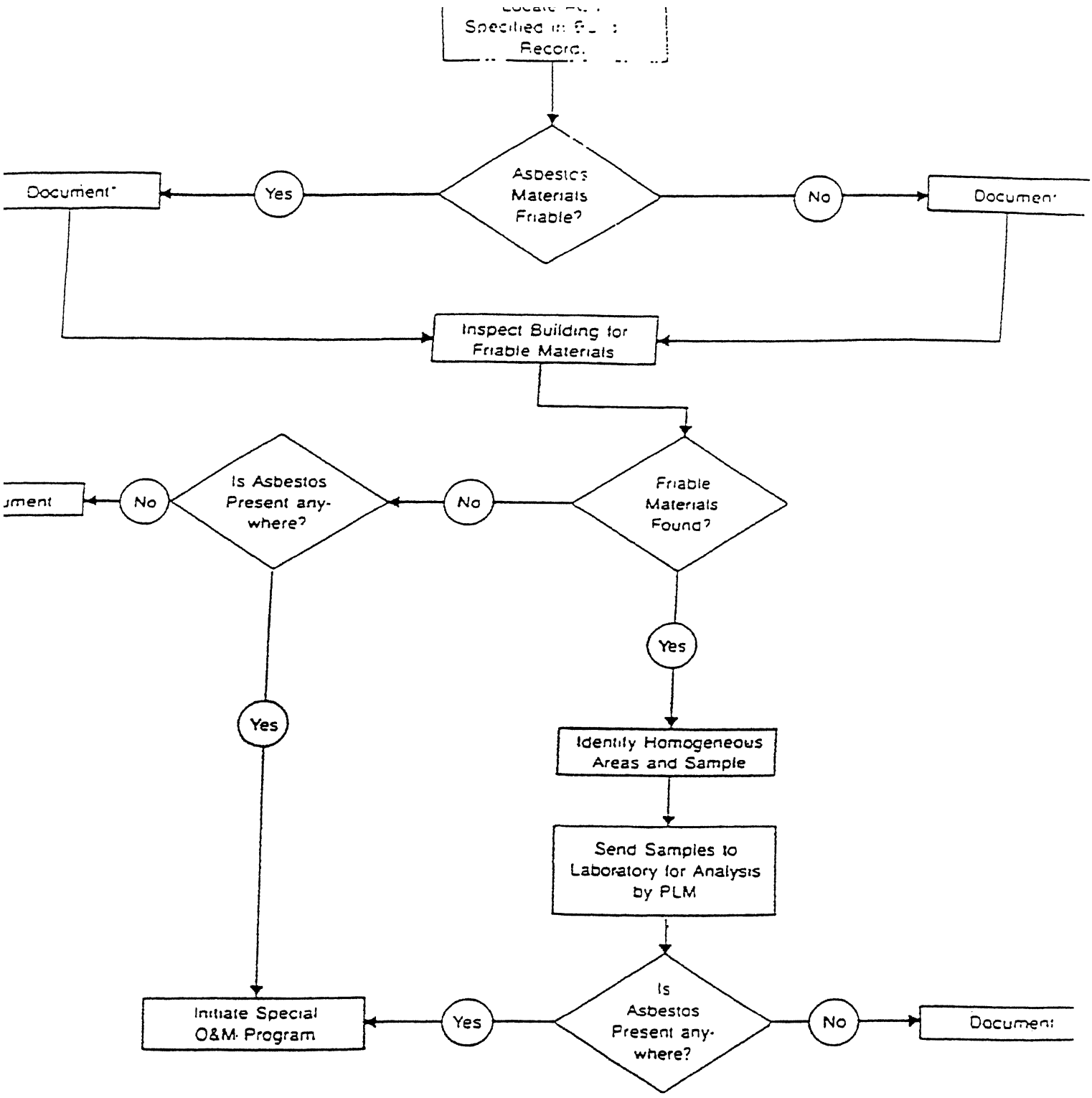

Figure 5. Survey procedures for sprayed- or troweled-on surfacing material.

*These materials can be sampled and analyzed to confirm that they do contain asbestos and that a special O&M program is needed

9. Training

QUESTIONS AND ANSWERS ABOUT ASBESTOS TRAINING REQUIREMENTS

Do I need special training or certification if my work involves handling asbestos?
For any work that involves 100 ft.^{2} or more of surface area of asbestos-containing construction materials, contractors must be specially certified and workers specially trained. In some instances, such as remodeling projects, the part of the job in which asbestos-bearing materials are handled or removed may require a contractor certified for asbestos abatement work.

Exempt from this certification requirement are the installation, maintenance, or repair of:

Asbestos pipe,

Sheet asbestos goods,

Vinyl asbestos floor materials, and

Asphalt saturated flooring materials,

unless the materials have become friable due to deterioration or handling. Should this occur, the contractor may be subject to civil and criminal penalties even though he or she believed the certification examination and registration were not required. **It is illegal to do asbestos-related work on a job of 100 ft.^{2} or more without proper certification.**

Personnel involved in asbestos abatement work in private and public schools (K-12) must receive additional accreditation. Currently, these requirements are met by completing an EPA-approved training course and passing the course examination.

Exposure to asbestos can occur in many construction-related operations. Even if a contractor is working with less than 100 ft.^{2} of surface area of asbestos-containing material (ACM), exposure can occur. The following are examples of such situations:

- A contractor remodeling a home cuts a small ceiling section to add a stairway and encounters sprayed-on asbestos insulation

- While replacing pipes during a minor renovation, a plumber is exposed to deteriorated, asbestos-containing pipe covering

- An insulation contractor is exposed to asbestos fibers while cutting through asbestos shingle siding to insulate a wall

What training is required under OSHA standards?

Employers must provide employees with training. Both Federal OSHA and Cal/OSHA require training on an annual basis, but neither agency specifies the number of training hours required per year or describes minimum requirements for qualification of trainers.

Under Federal OSHA, training must cover the following topics:

-Methods of recognizing asbestos
-Health effects of asbestos
-Relationship between smoking and exposure to asbestos
-Risks of exposure to asbestos
-Respiratory protection
-Work practices and control measures designed to minimize asbestos exposure
-Medical surveillance and employee rights
-OSHA standards

Cal/OSHA requires three distinct levels of training, depending on the level of asbestos exposure anticipated. Basic training covers the following areas:

-Physical characteristics of asbestos
-Types of asbestos products
-Health hazards of asbestos
-Increased risk of lung cancer from cigarette smoking and asbestos exposure
-Operations which may release asbestos fibers

In addition, for employees who are exposed or are expected to be exposed to asbestos above the action or excursion limit, Cal/OSHA requires training in the following areas:

-Air monitoring requirements, equipment, and interpretation of results
-Medical surveillance
-Respiratory and protective clothing
-Engineering and work practice controls
-Personal hygiene practices
-Cal/OSHA 1529 standard
-Recognition of operations which may require construction of a negative pressure enclosure

Further, Cal/OSHA requires that employees involved in asbestos-related work involving 100 ft.^{2} or more of ACM receive training in the following areas:

-State-of-the-art work practices
-Other safety and health concerns
-Hands-on training in various work practices

Who is covered by medical surveillance programs?

-Federal OSHA requires medical surveillance within ten (10) days of an employee's thirtieth (30th) day of exposure over the action limit in any given year.
-Cal/OSHA requires medical surveillance prior to employee exposure or reasonably expected exposure above the action or excursion limit, and further requires that medical surveillance X-rays be read by a NIOSH-certified "B" reader.
-Both Federal OSHA and Cal/OSHA require medical surveillance in advance if employees are required to wear negative pressure respirators.

What recordkeeping requirements are specified under OSHA?

-Employee air-sampling exposure data and medical records must be maintained for thirty (30) years.
-Sampling data showing that the exposure level was below the action level must be retained for thirty (30) years.
-Training materials must be be retained one (1) year after termination of employment for each employee.
-All records must be made available to the employee and to OSHA.

TRAINING REQUIREMENTS BY EMPLOYEE TYPE

2 Hr. Awareness Class I Cal-OSHA	Class II Cal-OSHA	16 Hour O&M	Class III Cal-OSHA 3 day AHERA	Certified Supervisor/ Competent Person
Asbestos and its Uses Spec. Locations ID Contaminated areas Health Effects Smoking Risks Recognition of ACM Mgt. Program Elements Regulations Spill Response Contract Person #	All of Class I content plus: air monitoring medical surveillance respirator training respirator fit testing protective clothing engineering controls HEPA vacuums Air filtration devices hygiene practices review regulatory req. removal operations	All of Class I & II content, plus: hands-on workshops in --glovebagging --mini-enclosures --fit-testing/air sampling	Two days of lecture One day of hands-on workshops 50 question exam Must be taught in native language	Two and a half days of lecture One and a half days of hands-on workshops 100 question exam Must be taught in english NOTE: One day supervisor upgrades are forbidden by EPA
TYPE OF EMPLOYEE				
REQUIRED by AHERA for school maintenance and custodial personnel who must work in asbestos-containing building RECOMMENDED for employees and occupants in asbestos-containing buildings	REQUIRED by Cal-OSHA for employees who may disturb asbestos and for employees who must enter a contaminated area, including asbestos containments, wearing protective clothing and a respirator, BUT who will not under any circumstances handle asbestos	REQUIRED by AHERA for school maintenance and custodial personnel who may disturb asbestos, or who must enter contaminated areas, or who must perform small scale short duration removals RECOMMENDED for any employee who must perform small scale short duration removals.	REQUIRED by AHERA in schools for employees performing any removal other than small scale short duration, and by some AQMD's and Cal-OSHA for any employee who disturbs/removes more than 100 square feet of material.	REQUIRED by AHERA in schools for the supervisor of an asbestos removal project, and by NESHAP and Cal-OSHA for any employee who supervises the removal of more than 100 square feet of material RECOMMENDED for project monitors and facility managers who must oversee removals.

IV. List of EPA-Approved State Accreditation Programs and Training Courses

The tenth cumulative listing of EPA-approved State accreditation programs and training courses is listed in Unit IV. As discussed above, quarterly notifications of EPA approval of State accreditation programs and EPA approval of training courses will be published in subsequent Federal Register notices. The closing date for the acceptance of submissions to EPA for inclusion in this tenth notice was January 22, 1990. Omission from this list does not imply disapproval by EPA, nor does the order of the courses reflect priority or quality. The format of the notification lists first the State accreditation programs approved by EPA, followed by EPA-approved training courses listed by Region. The name, address, phone number, and contact person is provided for each training provider followed by the courses and type of course approval (i.e., full, contingent, or for interim purposes).

As of January 22, 1990, a total of 587 training providers are offering 1113 EPA-approved training courses for accreditation under TSCA Title II. There are 487 asbestos abatement worker courses, 373 contractor/supervisor courses, 195 inspector/management planner courses, 17 inspector only courses, and 41 project designer courses. In addition, EPA has approved 885 refresher courses. Nineteen States have EPA-approved State accreditation programs in one or more disciplines.

The EPA-funded model course for inspectors and management planners is available. In addition, a previous EPA-developed course for asbestos abatement contractors and supervisors has been revised and is available in final form for interested parties who plan to offer training courses. EPA anticipates that its model worker course will be available in Spring 1990. A fee for each course will be charged to cover the reproduction and shipping costs for the written and visual aid materials. Interested parties should contact the following firm to receive copies of the training courses: ATLIS Federal Services, Inc., EPA AHERA Program, 8011 Executive Blvd., Rockville, MD 20852, Phone number: (301) 468-1516.

The following is the cumulative list of EPA-approved State accreditation programs and training courses:

EPA-Approved Training Courses

REGION IX—San Francisco, CA

Regional Asbestos Coordinator: Jo Ann Semones, (A-4-2), EPA, Region IX, 215 Fremont St., San Francisco, CA 94105, (415) 974-7290, (FTS) 454-7290.

List of Asbestos Courses: The following training courses have been approved by EPA. The courses are listed under (b). This approval is subject to the level of certification indicated after the course name. Training Providers are listed in alphabetical order and do not reflect a prioritization. Approvals for Region IX training courses and contact points for each, are as follows:

(1)(a) *Training Provider:* Ahearn & Associates, Inc.

Address: 4047 E Rancho Drive, Phoenix, AZ 85018, Contact: Robert L Hutzel, Phone: (602) 759-0235.

(b) *Approved Courses:*

Contractor/Supervisor Refresher Course (contingent from 12/6/89).

Inspector/Management Planner Refresher Course (contingent from 12/6/89).

(2)(a) *Training Provider:* Asbestos C.T.I.

Address: P.O. Box 228, Mokelumne Hill, CA 95245, Contact: Lee Hess, Phone: (209) 286-1249.

(b) *Approved Courses:*

Abatement Worker (contingent from 10/31/89).

Contractor/Supervisor (contingent from 10/31/88).

Inspector (contingent from 3/21/89).

(3)(a) *Training Provider:* Asbestos Seminars and Consulting.

Address: 4032 S Hempstead Circle, San Diego, CA 92116, Contact: Susan Zuanich, Phone: (619) 528-0196.

(b) *Approved Courses:*

Abatement Worker Refresher Course (contingent from 12/6/89).

Contractor/Supervisor Refresher Course (contingent from 12/6/89).

Inspector/Management Planner Refresher Course (contingent from 12/6/89).

(4)(a) *Training Provider:* Asbestos Workers Abatement Training Program of Southern California.

Address: 1000 East Lincoln Ave., Orange, CA 92655-1929, Contact: James Riley, Phone: (714) 921-8110.

(b) *Approved Courses:*

Abatement Worker (contingent from 5/

(contingent from 10/ 18/89).
Contractor/Supervisor (contingent from 1/28/89).
Contractor/Supervisor Refresher Course (contingent from 10/18/89).

(5)(a) *Training Provider:* California State University Sacramento.

Address: 650 University Avenue, Suite 101A, Sacramento, CA 95825. Contact: Jackie Branch. Phone: (916) 923-0282.

(b) *Approved Courses:*

Abatement Worker Refresher Course (contingent from 10/18/89).
Contractor/Supervisor Refresher Course (contingent from 10/18/89).

(6)(a) *Training Provider:* Carpenters No. 46 Northern California Counties J.A.T.C. & T.B.

Address: 2350 Santa Rita Rd., Pleasanton, CA 94566-4190. Contact: Hugh Johnson. Phone: (415) 462-9640.

(b) *Approved Courses:*

Abatement Worker (contingent from 10/ 31/89).
Abatement Worker Refresher Course (contingent from 10/18/89).
Contractor/Supervisor (contingent from 12/1/88).
Contractor/Supervisor Refresher Course (contingent from 10/18/89).

(7)(a) *Training Provider:* Center for Accelerated Learning.

Address: 400 Buck Ave., Suite G, Vacaville, CA 95688. Contact: David Esparza. Phone: (707) 446-7998.

(b) *Approved Courses:*

Abatement Worker (contingent from 6/ 1/88).
Abatement Worker Refresher Course (contingent from 12/15/88).
Contractor/Supervisor (contingent from 6/1/88).
Contractor/Supervisor Refresher Course (contingent from 12/15/88).
Inspector/Management Planner (contingent from 6/30/88).
Inspector/Management Planner Refresher Course (contingent from 10/ 18/89).
Project Designer (contingent from 10/31/ 89).
Project Designer Refresher Course (contingent from 10/18/89).

(8)(a) *Training Provider:* DWC Consulting Co., Inc.

Address: 1250 Pine St., Suite 307, Walnut Creek, CA 94596. Contact: Dan Weathers. Phone: (415) 933-9066.

(b) *Approved Courses:*

Abatement Worker (contingent from 4/ 3/89).
Abatement Worker Refresher Course (contingent from 10/18/89).
Contractor/Supervisor (contingent from 4/3/89).
(contingent from 10/ 18/89).
Inspector/Management Planner (contingent from 4/3/89).
Inspector/Management Planner Refresher Course (contingent from 10/ 18/89).

(9)(a) *Training Provider:* Dan Napier & Associates.

Address: 15342 Hawthorne Blvd., Suite 207, P.O. Box 1540, Lawndale, CA 90260-6440. Contact: Dan Napier. Phone: (213) 644-1924.

(b) *Approved Courses:*

Abatement Worker (contingent from 1/ 18/88).
Abatement Worker Refresher Course (contingent from 1/18/89).
Contractor/Supervisor (contingent from 3/27/89).
Contractor/Supervisor Refresher Course (contingent from 1/18/89).
Inspector/Management Planner (contingent from 4/3/89).
Inspector/Management Planner Refresher Course (contingent from 3/ 30/89).
Project Designer Refresher Course (contingent from 3/30/89).

(10)(a) *Training Provider:* Design for Health.

Address: 1516 W Redwood, Suite 104, San Diego, CA 92101. Contact: Mary A. Lacy, R.N., Phone: (619) 528-0196.

(b) *Approved Courses:*

Abatement Worker (contingent from 11/ 30/89).
Abatement Worker Refresher Course (contingent from 12/6/89).
Contractor/Supervisor Refresher Course (contingent from 12/6/89).
Inspector/Management Planner (contingent from 11/30/89).

(11)(a) *Training Provider:* Diagnostic Engineering, Inc.

Address: 50 East Foothill Blvd., Arcadia, CA 91006. Contact: Alan M. Lamson. Phone: (818) 447-5216.

(b) *Approved Courses:*

Abatement Worker (contingent from 10/ 27/88).
Contractor/Supervisor (contingent from 6/27/88).
Inspector/Management Planner (contingent from 6/27/88).
Inspector/Management Planner Refresher Course (contingent from 10/ 18/89).
Project Designer (contingent from 12/1/ 88).
Project Designer Refresher Course (contingent from 10/18/89).

(12)(a) *Training Provider:* Enviro Med.

Address: 2200 E River Road, Suite 122, Tucson, AZ 85718. Contact: Elizabeth Shanley. Phone: (602) 577-0818.

Contractor/Supervisor Refresher Course (contingent from 12/6/89).
Inspector/Management Planner Refresher Course (contingent from 12/ 6/89).

(13)(a) *Training Provider:* Eagle Environmental.

Address: 8840 A Elder Creek Rd., Sacramento, CA 95828. Contact: Larry West. Phone: (916) 381-5548.

(b) *Approved Courses:*

Abatement Worker Refresher Course (contingent from 10/18/89).
Contractor/Supervisor Refresher Course (contingent from 10/18/89).
Inspector/Management Planner Refresher Course (contingent from 10/ 18/89).
Project Designer Refresher Course (contingent from 10/18/89).

(14)(a) *Training Provider:* EnviroMD, Inc.

Address: 3443 East Fort Lowell Rd., Tucson, AZ 85716. Contact: Thomas Mc Mannus. Phone: (602) 881-1000.

(b) *Approved Courses:*

Contractor/Supervisor (contingent from 1/17/89).
Contractor/Supervisor Refreshe: Course (contingent from 10/18/89).
Inspector/Management Planner (contingent from 10/31/89).
Inspector/Management Planner Refresher Course (contingent from 18/89).

(15)(a) *Training Provider:* Environmental Control Industries.

Address: 5720 Shattuck Ave., Oakland, CA 94609. Contact: Richard McGlothlin. Phone: (415) 655-5355.

(b) *Approved Courses:*

Abatement Worker (contingent from 12/ 1/88).
Abatement Worker Refresher Course (contingent from 10/18/89).
Contractor/Supervisor (contingent from 10/31/89).
Contractor/Supervisor Refresher Course (contingent from 10/18/89).

(16)(a) *Training Provider:* Environmental Sciences, Inc.

Address: 105 E. Speedway, Tucson, AZ 85705. Contact: Dale Keyes. Phone: (602) 792-0087.

(b) *Approved Courses:*

Inspector/Management Planner (contingent from 9/29/87).
Inspector/Management Planner (full from 10/5/87).
Inspector/Management Planner Refresher Course (contingent from 11/ 14/88).

) *Training Provider:* Exce
mental, Inc.
s: 739 Allston Way, Berkeley, CA
, Contact: Otis Wong, Phone:
300.
ed Courses:
ment Worker (contingent from 12/
7).
ment Worker Refresher Course
tingent from 12/1/88).
ctor/Supervisor (contingent from
88).
ctor/Supervisor Refresher Course
tingent from 12/1/88).
a) *Training Provider:* Hawaii
rs Training School.
ss: P.O. Box 457, Aiea, HI 96701,
tact: Norman Jimeno, Phone: (808)
6161.
Approved Courses:
ment Worker (contingent from 5/
8).
ment Worker Refresher Course
tingent from 10/18/89).
(a) *Training Provider:* Herring &
g.
ss: No. 9 Grits Court, Sacramento,
95823, Contact: Leslie Herring,
ne: (916) 421-6260.
Approved Courses:
ement Worker (contingent from 1/
0)
Worker Refresher Course
nt from 10/18/89).
ractor/Supervisor (contingent from
/90).
ractor/Supervisor Refresher Course
ntingent from 10/18/89).
)(a) *Training Provider:* INFOTOX.
ess: 8531 Mission Blvd, Suite 24,
verside, CA 92508, Contact: Paul
ckson, Phone: (714) 685-5053.
) *Approved Courses:*
tement Worker (contingent from 10/
/89).
tement Worker Refresher Course
ontingent from 10/18/89).
tractor/Supervisor (contingent from
)/18/89).
tractor/Supervisor Refresher Course
ontingent from 10/18/89).
21)(a) *Training Provider:* Insulators &
estos Industry of Northern
lifornia & Local Union No. 16
bestos Training Fund.
dress: 2033 Clement Ave., Building 31,
Room 112, Alameda, CA 94501,
Contact: Hans D. Siebert, Phone: (415)
865-2282.
pproved Courses:
ent Worker (contingent from 5/
27/88).
ntractor/Supervisor (contingent from
10/31/89).
(22)(a) *Training Provider:*
ernational Technology Corp.
Wilmington, CA 90748, Contact: Keith
Soebe, Phone: (213) 830-1761.
(b) *Approved Courses:*
Abatement Worker (contingent from 12/
24/87).
Abatement Worker Refresher Course
(contingent from 3/29/89).
Contractor/Supervisor (contingent from
4/15/88).
Contractor/Supervisor Refresher Course
(contingent from 3/29/89).
(23)(a) *Training Provider:* KELLCO
Training Institute.
Address: 44814 Osgood Rd., Fremont,
CA 94539, Contact: Charles W.
Kellogg, Phone: (415) 659-6751.
(b) *Approved Courses:*
Abatement Worker (contingent from 6/
1/88).
Contractor/Supervisor (contingent from
7/20/88).
Contractor/Supervisor Refresher Course
(contingent from 10/31/88).
Inspector/Management Planner
(contingent from 3/21/89).
Inspector/Management Planner
Refresher Course (contingent from 3/
16/89).
(24)(a) *Training Provider:* Laborers
Training & Retraining Trust Fund for
Northern California.
Address: 21321 San Ramon Valley Blvd.,
San Ramon, CA 94583, Contact: Monte
R. Strother, Phone: (415) 828-2513.
(b) *Approved Courses:*
Abatement Worker (contingent from 6/
13/88).
Abatement Worker Refresher Course
(contingent from 12/15/88).
(25)(a) *Training Provider:* Laborers
Training & Retraining Trust Fund for
Southern California.
Address: P.O. Box 76, Anza, CA 92306-
0076, Contact: Don Sanders, Phone:
(714) 763-4341.
(b) *Approved Courses:*
Abatement Worker (contingent from 6/
30/88).
Abatement Worker Refresher Course
(contingent from 10/18/89).
(26)(a) *Training Provider:* Lehr
Training Institute, Inc.
Address: 4125 East La Palma Ave. Suite
300, Anaheim, CA 92807, Contact:
Susan Patnode, Phone: (714) 572-0110.
(b) *Approved Courses:*
Abatement Worker (contingent from 2/
16/88).
Abatement Worker Refresher Course
(contingent from 2/21/89).
Contractor/Supervisor (contingent from
2/16/88).
Contractor/Supervisor Refresher Course
(contingent f
9).
(contingent from 10/31/89).
Inspector/Management Planner
Refresher Course (contingent from 2/
21/89).
(27)(a) *Training Provider:* National
Abatement Technology Employment
Center (NATEC).
Address: 11552 Knott St., Suite 8,
Garden Grove, CA 92643, Contact:
Ronald Sandlin, Phone: (714) 894-7577.
(b) *Approved Courses:*
Abatement Worker (contingent from 12/
30/87).
Abatement Worker Refresher Course
(contingent from 11/14/88).
Contractor/Supervisor (contingent from
12/30/87).
Contractor/Supervisor Refresher Course
(contingent from 11/14/88).
(28)(a) *Training Provider:* National
Institute for Asbestos & Hazardous
Waste Training.
Address: 1019 West Manchester Blvd.,
Inglewood, CA 90301, Contact: Jim
McFarland, Phone: (213) 645-4516.
(b) *Approved Courses:*
Abatement Worker (full from 12/7/87).
Abatement Worker Refresher Course
(contingent from 10/19/88).
Contractor/Supervisor (full from 12/7/
87).
Contractor/Supervisor Refresher Course
(contingent from 10/19/88).
Inspector/Management Planner
(contingent from 6/30/88).
Inspector/Management Planner
Refresher Course (contingent from 11/
14/88).
(29)(a) *Training Provider:* Naval Civil
Engineering Laboratory.
Address: Port Hueneme, CA 93043-5003,
Contact: Susan G. Tiansen, Phone: (805)
982-4711.
(b) *Approved Courses:*
Abatement Worker (contingent from 10/
31/89).
Abatement Worker Refresher Course
(contingent from 10/18/89).
Contractor/Supervisor (contingent from
10/31/89).
Contractor/Supervisor Refresher Course
(contingent from 10/18/89).
Inspector (contingent from 4/6/89).
(30)(a) *Training Provider:*
Occupational Training Institute, Inc.
Address: 5 Civic Center, Suite 225,
Newport Beach, CA 92660, Contact:
David K. Hardman, Phone: (714) 721-
9578.
(b) *Approved Courses:*
Abatement Worker (contingent from 2/
21/89).
Abatement Worker Refresher Course
(contingent from 2/21/89).

actor/Supervisor (contingent from 1/89).
actor/Supervisor Refresher Course ntingent from 2/21/89).
ctor/Management Planner ntingent from 2/21/89).
ctor/Management Planner resher Course (contingent from 2/ 89).
)(a) *Training Provider:* Pacific stos Information Center U.C. sion.
ess: 2223 Fulton St., Berkeley, CA 20, Contact: Debra Dobbin, Phone: 5) 643–7143.
Approved Courses:
actor/Supervisor (full from 2/2/
actor/Supervisor Refresher Course ntingent from 10/19/88).
ctor/Management Planner (full m 11/16/87).
ctor/Management Planner resher Course (contingent from 10/ 88).
ct Designer (contingent from 10/31/
)(a) *Training Provider:* Robert ey Griese.
ess: 23214 Via Ladera, Valencia, 91355, Contact: Robert H. Griese, one: (805) 259–1478.
Approved Courses:
ement Worker (contingent from 12/ 9).
ractor/Supervisor (contingent from 6/89).
ctor/Management Planner ntingent from 12/6/89).
)(a) *Training Provider:* Salem ger, Inc.
ess: 106 Church St., Roseville, CA 78, Contact: Owen C. Tilley, Phone: 6) 784–7222.
Approved Courses:
ement Worker (contingent from 3/ /89).
ement Worker Refresher Course ntingent from 4/3/89).
ractor/Supervisor (contingent from 0/89).
ractor/Supervisor Refresher Course ntingent from 4/3/89).
ctor Refresher Course (contingent m 4/3/89).
)(a) *Training Provider:* San Diego ty Construction Laborers Training training Trust.
ess: 4161 Home Ave., Second Fl., n Diego, CA 92105, Contact: Bob hite, Phone: (619) 283–6941.
Approved Courses:
ement Worker (contingent from 3/ /89).
ement Worker Refresher Course ntingent from 10/18/89).
(35)(a) *Training Provider:* San Diego County District Council of Carpenters.
Address: 4665 Mercury St., San Diego, CA 92111. Contact: Otis Kunz, Phone: (619) 571–8977.
(b) *Approved Courses:*
Abatement Worker (contingent from 3/ 30/89).
Contractor/Supervisor (contingent from 10/31/88).
(36)(a) *Training Provider:* Spectrum Environmental Training.
Address: 6425 Bristol Pkwy., Suite 305, Culver City, CA 90230, Contact: Judy Armstrong, Phone: (213) 322–2332.
(b) *Approved Courses:*
Abatement Worker (contingent from 12/ 6/89).
Contractor/Supervisor (contingent from 12/6/89).
(37)(a) *Training Provider:* The Asbestos Institute.
Address: 2701 East Camelback, Suite 381, Phoenix, AZ 85016, Contact: William T. Cavness, Phone: (602) 381–0896.
(b) *Approved Courses:*
Abatement Worker (contingent from 6/ 30/88).
Abatement Worker Refresher Course (contingent from 10/31/88).
Contractor/Supervisor (contingent from 6/13/88).
Contractor/Supervisor Refresher Course (contingent from 3/9/89).
Inspector/Management Planner (contingent from 6/17/88).
Inspector/Management Planner Refresher Course (contingent from 6/ 16/88).
(38)(a) *Training Provider:* University Associates, Ltd.
Address: 2425–A North Huachuca Dr., Tucson, AZ 85745, Contact: Carolyn Coker, Phone: (602) 624–9366.
(b) *Approved Course:*
Inspector/Management Planner (contingent from 12/1/88).
(39)(a) *Training Provider:* University of Southern California Institute of Safety & Systems Management.
Address: University Gardens, 3500 South Figueroa St., Suite 202, Los Angeles, CA 90007, Contact: James O. Pierce, Phone: (213) 743–6523.
(b) *Approved Courses:*
Inspector/Management Planner (contingent from 2/15/88).
Inspector/Management Planner (full from 8/2/88).
Inspector/Management Planner Refresher Course (contingent from 2/ 23/89).
EPA-Approved Training Courses:
REGION X—Seattle, WA
Regional Asbestos Coordinator: Walter Jasper, EPA, Region X, 1200 Sixth Ave. (5T–083), Seattle, WA 98101. (206) 442–4762, (FTS) 399–2670.
List of Approved Courses: The following training courses have been approved by EPA. The courses are listed under (b). This approval is subject to the level of certification indicated after the course name. Training Providers are listed in alphabetical order and do not reflect a prioritization. Approvals for Region X training courses and contact points for each, are as follows:
(1)(a) *Training Provider:* Artic Slope Consulting Group.
Address: 3801 S Cushman, Fairbanks, AK 99701–7529, Contact: Robert A Perkins, Phone: (907) 451–8009.
(b) *Approved Course:*
Inspector/Management Planner Refresher Course (contingent from 10/ 25/89).
(2)(a) *Training Provider:* Asbestos Removal Technologies.
Address: P.O. Box 4762, Vancouver, WA 98662, Contact: Skip Gaultier, Phone: (800) 321–4121.
(b) *Approved Courses:*
Inspector/Management Planner Refresher Course (contingent from 10/ 25/89).
Inspector/Management Planner Refresher Course (full from 12/28/89).
Project Designer Refresher Course (contingent from 10/25/89).
Project Designer Refresher Course (full from 12/28/89).
(3)(a) *Training Provider:* Asbestos Services International.
Address: 12360 Southwest Butner Rd., Portland, OR 97225–5815, Contact: Robert E. Hastings, Phone: (503) 644–0246.
(b) *Approved Courses:*
Inspector/Management Planner (contingent from 8/23/88).
Inspector/Management Planner (full from 7/17/89).
Inspector/Management Planner Refresher Course (contingent from 10/ 31/88).
Inspector/Management Planner Refresher Course (full from 1/20/89).
Project Designer (contingent from 10/31/ 88).
Project Designer (full from 1/17/89).
(4)(a) *Training Provider:* Certified Industrial Hygiene Services, Inc.
Address: 911 Western Ave., Suite 206, Seattle, WA 98104, Contact: Dorothy Stansel, Phone: (206) 622–1096.

(b) *Approved Course:*
spector (contingent from 3/25/88).

(5)(a) *Training Provider:* Engineering ntinuing Education University of gton.
GG–13, Seattle, WA 98195, Contact: Susan G. Stone, Phone: (206) 543–5539.

(b) *Approved Courses:*
spector/Management Planner (contingent from 1/28/88).
spector/Management Planner (full from 2/8/88).

(6)(a) *Training Provider:* vironmental Health Sciences Lake ashington Vo-Tech.
ddress: 11605 132nd Ave., NE, Kirkland, WA 98034, Contact: Dave Rodewald, Phone: (206) 828–5643.

(b) *Approved Courses:*
spector/Management Planner (full from 4/11/88).
spector/Management Planner Refresher Course (contingent from 1/14/89).
spector/Management Planner Refresher Course (full from 1/27/89).
oject Designer (contingent from 12/11/89).

(7)(a) *Training Provider:* vironmental Management, Inc.
: P.O. Box 91477, Anchorage, AK Contact: Kenneth Johnson, Phone: (907) 272–6056.

(b) *Approved Course:*
spector/Management Planner (full from 4/18/88).

(8)(a) *Training Provider:* Hazcon, Inc.
ddress: 5850 6th Ave., S, Suite 216, Seattle, WA 98108, Contact: Mike Krause, Phone: (206) 763–7364.

(b) *Approved Courses:*
spector/Management Planner (contingent from 3/1/88).
spector/Management Planner (full from 4/4/88).
spector/Management Planner Refresher Course (contingent from 1/18/89).
spector/Management Planner Refresher Course (full from 1/30/89).

(9)(a) *Training Provider:* Heavey gineers, Inc.
ddress: 113 Russell St., P.O. Box 832, Stevenson, WA 98648–0832, Contact: Daniel Evans, Phone: (509) 427–8936.

(b) *Approved Courses:*
[redacted]r/Management Planner [redacted]ingent from 4/13/88).
spector/Management Planner (full from 5/2/88).
spector/Management Planner Refresher Course (contingent from 1/18/89).
Inspector/Management Planner Refresher Course (full from 3/10/89).

(10)(a) *Training Provider:* NAC Corporation/Northwest Asbestos Consultants.
Address: 1005 Northwest Galveston, Suite E, Bend, OR 97701, Contact: Dale Schmidt, Phone: (503) 389–8727.

(b) *Approved Courses:*
Inspector/Management Planner Refresher Course (contingent from 4/25/89).
Inspector/Management Planner Refresher Course (full from 7/24/89).

(11)(a) *Training Provider:* Northwest Envirocon, Inc.
Address: 4020 Southeast International Way, Suite C–106, Milwaukie, OR 97222, Contact: Shiela Wanta, Phone: (503) 659–8899.

(b) *Approved Courses:*
Inspector/Management Planner (contingent from 4/13/88).
Inspector/Management Planner (full from 5/2/88).

(12)(a) *Training Provider:* PBS Environmental Building Consultants, Inc.
Address: 1220 SouthWest Morrison, Portland, OR 97205, Contact: Stephen Smiley, Phone: (503) 248–1939.

(b) *Approved Courses:*
Inspector/Management Planner (contingent from 2/4/88).
Inspector/Management Planner (full from 3/14/88).
Inspector/Management Planner Refresher Course (contingent from 3/14/89).
Inspector/Management Planner Refresher Course (full from 6/30/89).
Project Designer (contingent from 6/9/89).
Project Designer (full from 6/19/89).
Project Designer Refresher Course (contingent from 10/25/89).

(13)(a) *Training Provider:* South East Regional Resource Center, Inc.
Address: 210 Ferry Way, Suite 200, Juneau, AK 99801, Contact: William Suss, Phone: (907) 586–6806.

(b) *Approved Course:*
Inspector/Management Planner Refresher Course (contingent from 4/18/89).

(14)(a) *Training Provider:* Specialized Environmental Consulting, Inc.
Address: P.O. Box 363, Wauna, WA 98395, Contact: Raymond Donahue, Phone: (206) 857–3222.

(b) *Approved Courses:*
Inspector/Management Planner Refresher Course (contingent from 3/7/89).
Inspector/Management Planner Refresher C[redacted] from 3/20/89).

(15)(a) *Training Provider:* University of Alaska, Mining & Petroleum Training Services.
Address: 155 Smith Way, Suite 104, Soldotna, AK 99669, Contact: Dennis D. Steffy, Phone: (907) 262–2788.

(b) *Approved Courses:*
Inspector/Management Planner (contingent from 2/16/88).
Inspector/Management Planner (full from 4/11/88).
Inspector/Management Planner Refresher Course (contingent from 1/14/89).

(16)(a) *Training Provider:* Valley Research Corporation.
Address: 1299 E. 2400 St., Hagerman, ID 83332, Contact: Leon Urie, Phone: (208) 837–6437.

(b) *Approved Course:*
Contractor/Supervisor (contingent from 10/20/89).

(17)(a) *Training Provider:* Washington Association of Maintenance & Operations Administrators, WAMOA.
Address: 12037 Northeast Fifth, Bellevue, WA 98005, Contact: Colin MacRae, Phone: (206) 455–8054.

(b) *Approved Courses:*
Inspector/Management Planner Refresher Course (contingent from 4/25/89).
Inspector/Management Planner Refresher Course (full from 7/24/89).

10. Compliance

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
ASBESTOS INSPECTION REPORT

SITE ADDRESS	NOTIF #	INSPECTION DATE
CONTRACTOR NAME		CONTRACTOR AEIS ID#

		YES	NO	COUNT #
Demolition or renovation work going on at time of inspection		[]	[]	
Wet demolition with no dust, track-out, water run-off (403)	145c9	[]	[]	
Permitted Vac-loader; Filing for HEPA vacuum, negative air machine, ICE, etc	201, 203, 222	[]	[]	
Disturbed, handled or removed ACM & PACM that contain more than 1 % asbestos		[]	[]	
Disturbed, handled or Removed more than 100 square feet of ACM & PACM. Quantity		[]	[]	

1403(d)(1) Sec	*WORK SITE REQUIREMENTS*	*40CFR61 Sec*			
A	Asbestos Survey prior to demolition and/or renovation	145a	[]	[]	1
A(viii)	Asbestos Survey conducted by a Certified CAL OSHA Surveyor		[]	[]	2
B	Notification postmarked 10 working days prior to renovation / demolition	145b3i	[]	[]	3
B(v)	Notification updates submitted as required (revisions)	145b2	[]	[]	4
C	Removed all ACM & PACM prior to demolition or renovation Notf #	145c1	[]	[]	5
CiiV	Secured, stabilized, surveyed an associated disturbance of ACM		[]	[]	6
D	Used required ACM & PACM removal procedures		[]	[]	7
D(iI)	Procedure 1 - Removed ACM & PACM within containment	145c 3iB1	[]	[]	8
1	Covered non working surfaces		[]	[]	9
2	Isolated work area free of gaps and tears, and air tight		[]	[]	10
3	Restricted air movement		[]	[]	11
4	Containment with viewing ports		[]	[]	12
5	Filtering work area air with HEPA system	145c 3	[]	[]	13
6	HEPA filter(s) free of tears or damage	152b2	[]	[]	14
7	Wetting ACM & PACM during removal	145c 3	[]	[]	15
D(iII)	Procedure 2 - Glovebag or Mini enclosures	145c 3iB2	[]	[]	16
D(iIII)	Procedure 3- Wetting, drop cloths, tenting, manual removal	145c 2i	[]	[]	17
D(iIV)	Procedure 4- Approved dry ACM removal	145c 3ii	[]	[]	18
D(iV)	Procedure 5- Approved alternative plan for handling disturbed ACM	145c 3ii	[]	[]	19
DiV3	Complied with all the Procedure 5 Plan conditions and limitations		[]	[]	20
DiiI	Removed disturbed ACM without an approved Procedure 5 Plan		[]	[]	21
	On site proof of AQMD approval for Procedure 4 & 5 Plans	145c3iii	[]	[]	22
E	Collected and placed all ACWM & PACM in leak tight transparent bags	150a1iii	[]	[]	23
E(i)	Handled ACM & PACM carefully without damaging or disturbing it	145c6ii	[]	[]	24
E(ii)	Lowered ACWM & PACM to ground via leak-tight chute if > 50 ft	145c6iii	[]	[]	25
E(iii)	Wetted/encapsulated ACWM & PACM	145c6i	[]	[]	26
E(iv)	Cleaned work area free of ACM, PACM & ACWM		[]	[]	27
G	On site supervisor present during ACM handling with on site proof of training	145c8	[]	[]	28
H	On site proof of CSLB License, OSHA Registration, survey, notification(s), Proc 5 Plan, etc		[]	[]	29
I	Stored ACWM leak-tight bags in locked bins in an enclosed area inaccessible to the public		[]	[]	30
J	Disposed of ACWM & PACM at an asbestos landfill per 1403d3	150b1	[]	[]	31
K	Labeled and marked the ACWM bags per 1403e1A & B	150a1iv & v	[]	[]	32
L	Marked transportation vehicle during loading and unloading of ACWM per 1403e	150c	[]	[]	33
M	Prepared ACWM shipment records per 1403f1	150d1	[]	[]	34
N	Maintained records of removal/demolition project per 1403g (includes jobs < 100 sq ft)		[]	[]	35
h	Used AHERA sampling techniques and samples analyzed at a NVLAP lab		[]	[]	36
i	On site supervisor and workers have certified asbestos training and R1403 District training		[]	[]	37

INSPECTION TYPE	DEMOLITION []	RENOVATION []	NESHAP []	PROCEDURE 5 []	COMPLAINT #
DISPOSITION	OC [] NO []	NC #	NOV #		NC/NOV DATE
NUMBER OF SAMPLES COLLECTED			NUMBER OF PHOTOGRAPHS TAKEN		
INSPECTOR SIGNATURE					REPORT DATE
SUPERVISOR SIGNATURE					REVIEW DATE

ASBESTOS INSPECTION REPORT

SITE ADDRESS	NOTIFICATION #

LA City FD, Palm Springs FD and OSHA require a separate notification

INSPECTOR'S SIGNATURE:	REPORT DATE:
SUPERVISOR'S SIGNATURE:	REVIEW DATE:

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178 1-800-CUT-SMOG www.aqmd.gov

ASBESTOS SURVEY REPORT CHECKLIST

Rev 09/07

Inspection Date:	Notification #:	Type of Survey: ☐ Limited Renovation Survey ☐ Thorough Demolition Survey		
Contractor Name:	Class ID#:	Site Address:		
Contact Name:	Phone:	City:	State:	Zip:
Survey Conducted By:		Phone:	Class ID#:	

Rule 1403	Asbestos Survey Documentation Requirements*	40CFR763	In Compliance	Misc.
d1A	Inspected the facility for ACM and assumed ACM where the demolition/renovation will occur	85a	☐ Yes ☐ No	
d1A	Identified all friable and nonfriable types of ACM and assumed ACM	85a4iii	☐ Yes ☐ No	
d1A	Quantified all the friable and nonfriable ACM and assumed ACM		☐ Yes ☐ No	
iii	Submitted a CAC signed survey report with company logo/headings and contact information	85a4A	☐ Yes ☐ No	
(iii)(I)	Documented name, address and phone # of the person(s) that performed the inspection(s)	85a4A	☐ Yes ☐ No	
(iii)(II)	Documented the OSHA certificate # of the person(s) that performed the inspection(s)	85a4viA	☐ Yes ☐ No	
(iii)(III)	Documented the dates the survey was performed	85a4viA	☐ Yes ☐ No	
(iii)(IV)	Listed the sample location and description and prepared a sketch & sample chain of custody	85a4viB	☐ Yes ☐ No	
(iii)(V)	Documented the name, address and phone # of the lab used for sample analysis	85a4viC	☐ Yes ☐ No	
(iii)(VI)	Documented the NVLAP approval # of the lab used for sample analysis	87d	☐ Yes ☐ No	
(iii)(VI)	Documented the sampling protocols and lab test methods used fro asbestos analysis	85a4viC	☐ Yes ☐ No	
(iii)(VIII)	Described the facility included any structural damage (fire, demo, partial reno, etc)	-	☐ Yes ☐ No	
iv	Provided proof of Cal/OSHA certification as a Certified Asbestos Consultant (CAC)	85a3	☐ Yes ☐ No	
h1	Sampled the suspect ACM in accordance with the AHERA inspection protocol	86	☐ Yes ☐ No	
-	Assessed the ACM condition for damage type and rating in percent	85a4v	☐ Yes ☐ No	
h2	Analyzed samples at a NVLAP lab by PLM or SCAQMD Method 300-91	87	☐ Yes ☐ No	
-	Included a table summary of findings listing all ACM and non-ACM materials	85a4B	☐ Yes ☐ No	

*** Please see 40CFR763 Subpart E, B&P7180, and R1403d1A for minimum survey requirements**

Comment:

Reporting Inspector:	**Date:**	Reviewing Supervisor:	**Date:**