

RULE 223-2 FUGITIVE DUST – ASBESTOS HAZARD MITIGATION
(Adopted 7/19/2005, Amended 10/18/2005)

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223-2.1 GENERAL

- A. **PURPOSE:** The purpose of this Rule is to reduce the amount of asbestos particulate matter entrained in the ambient air as a result of any construction or construction related activities, that disturbs or potentially disturbs naturally occurring asbestos by requiring actions to prevent, reduce or mitigate asbestos emissions.
- B. **APPLICABILITY:** Unless one of the exemptions specified in Section 223-2.2 Exemptions applies, this Rule shall apply to **any construction or construction related activity** that:
1. is in excess of 20 cubic yards of graded material per project, or if required by the Air Pollution Control Officer **and**
 2. meets **either** of the following criteria:
 - a. Any portion of the area to be disturbed:
 - i. is located in a geographic ultramafic rock unit, **or**
 - ii. has naturally-occurring asbestos, serpentine or ultramafic rock as determined by owner/operator, Professional Geologist or the Air Pollution Control Officer, **or**
 - iii. is located within designated Naturally Occurring Asbestos Review Areas on the current El Dorado County Naturally Occurring Asbestos Review Area Map
 - b. Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a Professional Geologist, or the Air Pollution Control Officer in the area to be disturbed after the start of any construction or construction related activity.

C. ASBESTOS RELATED STATE OF CALIFORNIA REGULATIONS

1. In addition to the requirements of this rule there are two State of California regulations for asbestos control that are applicable within El Dorado County and enforceable by the El Dorado County Air Quality Management District (EDCAQMD). These two asbestos control regulations are Attachments A and B to this rule.
 - a. Reference A: Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying and Surface Mining Operations (California Code of Regulations, Title 17, Section 93105)
 - b. Reference B: Asbestos Airborne Toxic Control Measure (ATCM) for Surfacing Applications (California Code of Regulations, Title 17, Section 93106)
2. A person who is subject to the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying and Surface Mining Operations (California Code of Regulations, Title 17, Section 93105) is required to comply with the following sections in addition to the requirements under the ATCM:
 - a. Section 223-2.4.A. regarding the visible emission standards.
 - b. Section 223-2.4.C: regarding the suspension of operations under high wind conditions.
 - c. Section 223-2.4.D: regarding the posting of Asbestos Warning signs.
 - d. Section 223-2.6.A and B: regarding trackout removal.

- e. Section 223-2.6.D: regarding disposal of asbestiform containing soils removed by excavation.
- f. Section 223-2.6.E: regarding 30-day time limit and other requirements for completion of post construction stabilization/mitigation.

223-2.2 EXEMPTION

- A. **GENERAL:** Exemptions as defined in EDCAQMD Rule 223.2 A through F shall apply to this rule.
- B. **GEOLOGIC EVALUATION:** The Air Pollution Control Officer may provide an exemption from this Rule for any property that meets at least one of the criteria in Section 223-2.1.B if a Professional Geologist has **conducted** a geologic evaluation of the property and determined that no serpentine or ultramafic rock, or asbestos, is likely to be found in the area to be disturbed. Before an exemption can be granted, the owner/operator must provide a copy of a report detailing the geologic evaluation to the Air Pollution Control Officer for his or her consideration.
 - 1. At a minimum, the geologic evaluation must include:
 - a. A general description of the property and the proposed use;
 - b. A detailed site characterization which may include:
 - i. A physical site inspection;
 - ii. Offsite geologic evaluation of adjacent property;
 - iii. Evaluation of existing geological maps and studies of the site and surrounding area;
 - iv. Development of geologic maps of the site and vicinity;
 - v. Identification and description of geologic units, rock and soil types, and features that could be related to the presence of ultramafic rocks, serpentine, or asbestos mineralization; and
 - vi. A subsurface investigation to evaluate the nature and extent of geologic materials in the subsurface where excavation is planned; methods of subsurface investigation may include, but are not limited to borings, test pits, trenching, and geophysical surveys;
 - c. A classification of rock types found must conform to the nomenclature based on the International Union of Geological Science system;
 - d. A description of the sampling procedures used;
 - e. A description of the analytical procedures used, which may include mineralogical analyses, petrographic analyses, chemical analyses, or analyses for asbestos content;
 - f. An archive of collected rock samples for third party examination (to be kept for at least one year after the completion of the project); and
 - g. A geologic evaluation report documenting observations, methods, data, and findings; the format and content of the report should follow the Guidelines for the Assessment of Naturally Occurring Asbestos issued by the California Geologic Survey.
 - 2. The Air Pollution Control Officer may request any additional tests or other information needed to evaluate an application for exemption
 - 3. The Air Pollution Control Officer shall grant or deny a request for an exemption within 30 days of the receipt of a complete application.
 - 4. If the request for an exemption is denied, the Air Pollution Control Officer shall provide written reasons for the denial.

5. Expiration of the Geologic Exemption: If the owner/operator discovers any naturally-occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed after the exemption is granted, then:
 - a. The owner/operator must comply with the requirements of this Rule.
 - b. The owner/operator must report the discovery of the naturally-occurring asbestos, serpentine or ultramafic rock to the Air Pollution Control Officer no later than the next business day.
 - c. The exemption under Section 223-2.2.B shall expire and cease to be effective.

223-2.3 DEFINITIONS

In addition to the definitions of terms in EDCAQMD Rule 223 (General Requirements), the following definitions shall apply to this rule.

- A. **ADEQUATELY WETTED:** sufficiently moistened with water to minimize the release of particulate matter into the ambient air.
- B. **APPROVED ASBESTOS BULK TEST METHOD:** ARB Test Method 435 or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board.
- C. **ARB:** the California Air Resources Board.
- D. **ARB TEST METHOD 435:** the test method specified in title 17, California Code of Regulations, Section 94147.
- E. **ASBESTOS:** asbestiforms of the following minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous cummingtonite--grunerite), asbestiform amphiboles (e.g. edenite, winchite and richterite), fibrous tremolite, fibrous actinolite, fibrous anthophyllite and tremolite/actinolite solution series of asbestiform minerals.
- F. **ASBESTOS-CONTAINING MATERIAL:** any material that has asbestos content of 0.25 percent or greater by ARB test method 435.
- G. **ASBESTOS CONTAINING WASTE or ACW:** asbestos containing waste managed at a landfill as authorized by Section 25143.7, chapter 6.5 of the California Health and Safety Code, which contains greater than (1%) friable asbestos by weight. Asbestos containing waste does not include waste contaminated with another hazardous waste as identified in chapter 11, division 4.5, Title 22, California Code of Regulations.
- H. **ASBESTOS DUST MITIGATION PLAN:** a detailed written document specifying measures that would be implemented to minimize the emissions of asbestos-laden dust.
- I. **EL DORADO COUNTY NATURALLY OCCURRING ASBESTOS REVIEW AREA MAP:** a map created by adding mapping accuracy buffers to (1) faults and areas likely to contain asbestos as shown on the March 2000 Department of Mines and Geology "Areas More Likely to Contain Naturally-Occurring Asbestos in Western El Dorado County, California" map and (2) documented discovery sites containing at least 0.25% Asbestos. The most current map is provided on the EDCAQMD website and is available at the El Dorado County Surveyor's office.

- J. **GEOGRAPHIC ULTRAMAFIC ROCK UNIT:** a geographic area that is designated as an ultramafic rock unit or ultrabasic rock unit, including the unit boundary line, on any of the maps referenced in Appendix A of the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining, Section 93105, Title 17, California Code of Regulations
- K. **GEOLOGIC EVALUATION:** an evaluation of a property by a Professional Geologist to determine the presence of various types of rocks, including but not limited to ultramafic rock, serpentinite, or other metamorphic derivatives of ultramafic rock.
- L. **HEPA FILTER:** a High Efficiency Particulate Air filter used to remove particles less than one (1) micron in aerodynamic diameter that operates at removal efficiencies of 99.9 percent or greater.
- M. **NATURALLY-OCCURRING ASBESTOS:** asbestos that has not been processed in an asbestos mill or is not asbestos mine tailings.
- N. **PROFESSIONAL GEOLOGIST:** an individual who is currently licensed as a geologist with the State of California, Department of Consumer Affairs, Board of Geology and Geophysicists.
- O. **REMOTE LOCATION:** any location that is at least one (1.0) mile from the location of a receptor.
- P. **RECEPTOR:** includes, but is not limited to, any hospital, school, day care center, work site, business, residence, and permanent campground. The distance to the nearest receptor is to be measured from the outermost limit of the area to be disturbed or road surface, whichever is closer.
- Q. **SERPENTINE:** any form of the following hydrous magnesium silicate minerals: antigorite, lizardite, and chrysotile.
- R. **SERPENTINITE:** a rock consisting almost entirely of serpentine, although small amounts of other minerals such as magnetite, chromite, talc, brucite, and tremolite-actinolite may also be present. "Serpentinite" is a metamorphic derivative of the ultramafic rocks, peridotite, pyroxenite, or dunite.
- S. **ULTRABASIC ROCK:** ultramafic rock.
- T. **ULTRAMAFIC ROCK:** an igneous rock composed of 90 percent or greater of one or a combination of the following iron/magnesium-rich, dark-colored silicate minerals: olivine, pyroxene or more rarely amphibole. For the purposes of this section, "ultramafic rock" includes the following rock types: dunite, pyroxenite and peridotite; and their metamorphic derivatives.
- U. **VEGETATIVE COVER:** ground cover with sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter.

223-2.4 GENERAL REQUIREMENTS

- A. Visible emissions shall not exceed the shade designated as No. 0 on the Ringelmann Chart, or 0% opacity as determined in accordance with US EPA Method 9, at 25 feet from the point-of-origin and at the property line. Visible emissions shall not exceed the shade designated as No. 1 on the Ringelmann Chart, or 20% opacity as determined in accordance with US EPA Method 9 at the point-of-origin. Applicable Best Management Practices included in Table 1 through 4 of this Rule or

similar effective measures shall be utilized to comply with fugitive dust standards of this rule from each fugitive dust source type within the active operation.

B. Vehicle Speed Limitations and Posting of Speed Limit Signs

1. An owner/operator shall limit the speed of vehicles traveling within construction sites to a maximum of 15 miles per hour.
2. An owner/operator shall post speed limit signs limiting vehicle speed to maximum of 15 miles per hour that meet State and Federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance.

C. When sustained wind speeds result in visible dust emissions in excess of the standards in Section 223-2.4 A., despite the application of dust mitigation measures, grading and earthmoving operations except except for dust mitigation activities shall be suspended

D. Warning Signs shall be posted at the main entrance(s) to the project for the duration of soil disturbance activities. Signs shall be posted in letter of sufficient size as to be readily visible and legible. The following wording is recommended: "Warning. Soils in the area may contain naturally occurring asbestos. Asbestos is a known carcinogen. Report excessive fugitive dust to the contractor at (contractor phone number), NOA Hotline: 888-FYI4NOA or EDCAQMD: 530-621-6662"

E. Following operations and activities are expressly prohibited:

1. Rock crushing of asbestos-containing material;
2. Use of blower devices for any removal of asbestos-containing material.

223-2.5 ADMINISTRATIVE REQUIREMENTS

A. Asbestos Dust Mitigation Plan

1. An owner/operator shall submit an Asbestos Dust Mitigation Plan to the Air Pollution Control Officer prior to the start of any construction activity that is applicable to this rule. An updated Asbestos Dust Mitigation Plan must be submitted if the project is significantly modified, a new grading permit is issued, the owner/operator changes or at the request of the Air Pollution Control Officer.

Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Asbestos Dust Mitigation Plan. An owner/operator shall provide written notification to the Air Pollution Control Officer at least 10 days prior to the commencement of earthmoving activities via fax or mail. Projects that are less than 1 acre shall provide notification to the Air Pollution Control Officer at least 48 hours prior to earthmoving activities via fax or mail. The requirement to submit an Asbestos Dust Mitigation Plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.

2. . An owner/operator may submit one Asbestos Dust Mitigation Plan covering multiple construction stages within same project, provided the plan includes description of activities and

control measures for all stages of the project. The Asbestos Dust Mitigation Plan shall specify the expected start and final completion date of each project.

3. Asbestos Dust Mitigation Plan shall describe all dust mitigation measures to be implemented before, during and after any dust generating activity.
4. Asbestos Dust Mitigation Plan shall contain all the information described in Section 223-2.5.B. The Air Pollution Control Officer shall approve, disapprove or conditionally approve the Asbestos Dust Mitigation Plan within 30 days of plan submittal.
5. An owner/operator shall retain a copy of an approved Asbestos Dust Mitigation Plan at the project site. The approved Asbestos Dust Mitigation Plan shall remain valid until the termination of all dust generating activities. Failure to comply with the provisions of an approved Asbestos Dust Mitigation Plan is deemed to be a violation of this rule. Regardless of whether an approved Asbestos Dust Mitigation Plan is in place or not, or even when the owner/operator responsible for the plan is complying with an approved Asbestos Dust Mitigation Plan, the owner/operator shall comply also with all requirements of this Rule at all times.

B. An Asbestos Dust Mitigation Plan shall contain all of the following information:

1. Name(s), address(s), and phone number(s) of person(s) and owner(s)/operator(s) responsible for the preparation, submittal, and implementation of the Asbestos Dust Mitigation Plan and responsible for the dust generating operation and the application of dust control measures.
2. A plot plan which shows the type and location of each project.
3. The total area of land surface to be disturbed and total area in acres of the entire project site.
4. The expected start and completion dates of dust generating and soil disturbance activities to be performed on the site.
5. The actual and potential sources of fugitive dust emissions on the site and the location of bulk material handling and storage areas, paved and unpaved roads; entrances and exits where carryout/trackout may occur; and traffic areas.
6. Best Management Practice (Rule 223-2, Table 1 through 4) or other effective measures for:
 - a. Construction
 - b. Bulk Material Handling
 - c. Carryout and Trackout Management
 - d. Blasting Activities
7. Large Operations must include Dust Control Measures (Rule 223-2, Table 5 and 6).
8. If chemical dust suppressants are to be applied, the following information must be included: product specifications; manufacturer's usage instructions (method, frequency, and intensity of application); type, number, and capacity of application equipment; and information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.
9. Specific surface treatment(s) and/or control measures utilized to control material carryout, trackout, and sedimentation where unpaved and/or access points join paved roads.

10. Frequency of reporting: The plan shall state how often the items specified in Section 223-2.9. and any other items identified in the plan, will be reported to the EDCAQMD.

**223-2.6 REQUIREMENTS FOR TRACKOUT MANAGEMENT, EXCAVATED SOIL
MANAGEMENT AND POST-CONSTRUCTION STABILIZATION**

- A. An owner/operator shall prevent or cleanup carryout and trackout as specified in Section 223-2.6.A. The use of blower devices, or dry rotary brushes or brooms, for removal of carryout and trackout on public roads is expressly prohibited. The removal of carryout and trackout from paved public roads does not exempt an owner/operator from obtaining state or local agency permits which may be required for the cleanup of mud and dirt on paved public roads.
1. Owners/operators shall prevent carryout and trackout, or remove all visible carryout and trackout immediately.
 2. Cleanup of carryout and trackout shall be accomplished by:
 - a. Wet sweeping and picking-up; or
 - b. Operating a HEPA filter equipped vacuum device; or
 - c. Flushing with water, if curbs or gutters are not present, and where the use of water will not result in a source of trackout material or result in adverse impacts on storm water drainage systems or violate any National Pollutant Discharge Elimination System permit program.
- B. An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall in addition to the requirements in Section 223-2.6.A, take the following preventative actions for carryout and trackout:
1. Installing and maintaining a trackout control device (grizzlies, gravel pads or paved surfaces) designed and maintained to control trackout at all access points to paved public roads; or
 2. Utilizing a carryout and trackout prevention procedure which has been demonstrated to the satisfaction of the Air Pollution Control Officer as achieving an equivalent or greater level of control.
- C. Control for disturbed surface areas and storage piles, shall comply with all applicable requirements of this Rule.
- D. Disposal of asbestiform containing soils removed by excavation:
1. Placing excavated soils into fills constructed elsewhere on the project.
 - a. The location(s) of such removals and the placement quantities and locations shall be documented.
 - b. Fills with a naturally occurring asbestos content equal to or greater than 1.0% by ARB Test Method 435, or when visually evident fibrous materials likely to be asbestos are present, located in residential landscaping areas shall be covered by at least two feet (24 inches) of non-asbestiform containing material or by concrete or asphalt paving.
 2. It is the owner/operator responsibility that final destination (usage or disposal) and transports of any excavated soils from the project is in conducted in full compliance with pertinent federal,

state and local rules and regulations including CA Title 17, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Applications.

3. For any soils transported off-site the following information must be documented, retained for a period of at least 3 years, and provided to the Air Pollution Control Officer upon request:
 - a. Project location
 - b. Laboratory results for any asbestos soil testing done at the project location
 - c. Date(s) of off-site transport(s) of excavated soils
 - d. Location(s) where excavated soils were transported to
 - e. Total quantity transported to each location
 - f. Intended usage (fill, surface application), if the final destination is other than Class II or Class III landfill disposal facility.
- E. Control for off-site transport. The owner/operator shall ensure that no trucks are allowed to transport excavated material off-site unless:
 1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
 2. Loads are adequately wetted; and
 - a. Covered with tarps; or
 - b. Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
 3. If excavated material is classified as a hazardous waste/material, off-site transport must comply with pertinent State and Federal rules and regulations.
- F. Post construction stabilization of disturbed areas. For multiple phase projects, the property owner shall be responsible for ensuring that the soil be stabilized following each phase of the project using one of the methods listed below or by any other method approved by the APCO. Upon completion of all phases of the project, but no later than 30 days following the end of soil disturbing activities, all disturbed surfaces with naturally occurring asbestos content of equal to or greater than 0.25% by ARB test method 435 shall be stabilized using one or more of the following methods:
 1. Establishment of a vegetative cover;
 2. Placement of non-asbestos containing material on disturbed soil areas shall be as follows:
 - a. At least three (3.0) inches in residential and nonresidential areas;
 - b. A total of at least twelve (12) inches or the maximum depth of irrigation improvements, whichever is higher, in residential landscaping areas with a naturally occurring asbestos content greater than 0.25% by ARB Test Method 435, or when visually evident fibrous materials likely to be asbestos are present;
 3. Paving, building foundations, concrete flatwork or retaining walls

223-2.7. ADDITIONAL REQUIREMENTS FOR LARGE OPERATIONS

- A. Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 5 of this Rule at all times and shall implement the

applicable actions specified in Table 6 of this Rule when the applicable performance standards can not be met through use of Table 5 actions; and shall:

1. Submit a Large Operation Notification to the Air Pollution Control Officer within 7 days of qualifying as a large operation;
2. 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 Air Pollution Control Officer upon request;
3. Identify a dust control supervisor that:
 - a. is employed by or contracted with the property owner or developer;
 - b. is on the site or available on-site within 30 minutes during working hours;
 - c. has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements.

223-2.8 AIR MONITORING FOR ASBESTOS

A. Pursuant to the requirements of California Health and Safety Code Section 41511:

1. Air monitoring may be required by the Air Pollution Control Officer.
2. The Air Pollution Control Officer may require revisions to the asbestos dust mitigation plan on the basis of the results of the air monitoring.

B. Air monitoring for asbestos (if required by the Air Pollution Control Officer).

1. If required by the Air Pollution Control Officer, the Asbestos Dust Mitigation Plan shall include an air-monitoring component.
2. The air monitoring component shall specify the following:
 - a. Type of air sampling device(s);
 - b. Siting of air sampling device(s);
 - c. Sampling duration and frequency; and
 - d. Analytical method
 - e. Frequency and detail of analytical data submittal

223-2.9 RECORDKEEPING AND REPORTING REQUIREMENTS

A. Recordkeeping Requirements: The owner shall retain all of the following records for at least ten (10) years following the completion of the construction project:

1. The results of any air monitoring conducted any time during the project.
2. The documentation for any geologic evaluation conducted on the property for the purposes of obtaining an exemption, except the archive of collected samples which may be discarded at the expiration of the exemption or one (1) year after the exemption is granted whichever is less.
3. The results of any asbestos bulk sampling that meets any of the following conditions:

- a. The asbestos bulk sampling was conducted by the owner/operator to document the applicability of or compliance with this section.
 - b. The asbestos bulk sampling was done at the request of the Air Pollution Control Officer or the El Dorado Building Department or Department of Transportation (DOT).
4. The placement quantities and both removal and placement location of asbestiform containing soils removed by excavation as required in 223-2.6.D.
 5. Records and reports for the project, as defined in 223-2.9.A, shall be provided upon request with disclosures in real estate transactions concerning the project or property.
- B. Reporting Requirements: The owner/operator of any grading or construction operation subject to this section shall submit the following to the EDCAQMD:
1. The results of any air monitoring conducted at the request of the Air Pollution Control Officer.
 2. The laboratory results of any asbestos bulk sampling or testing.
 3. The areas where asbestos was identified, removed, and placed, onsite or offsite shall be described upon completion of the project.
 4. Any public complaints received by the contractor during the project shall be reported as requested by the Air Pollution Control Officer.

223-2.10 TEST METHODS

- A. Ultramafic Rock: The ultramafic rock composition of any material shall be determined using standard analysis techniques including, but not limited to, color index assessment, microscopic examination, petrographic analysis or rock thin sections, or chemical analysis techniques, such as X-ray fluorescence spectrometry or inductively coupled plasma analysis.
- B. Bulk Sampling Methods: ARB Test Method 435, or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board, shall be used to determine the asbestos content of a bulk sample. For the purposes of determining compliance with this section, references in ARB Test Method 435 to "serpentine aggregate" shall mean "gravel" or other "bulk materials" to be tested for asbestos content.
- C. Surface Crusting: "Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows:
1. Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above at a 90 degree angle (perpendicular) to the ground surface. If blowsand (thin deposits of loose grains covering less than 50 percent of the surface that have not originated from the surface being tested) is present, clear the blowsand from the surfaces to be tested before dropping the steel ball.
 2. A sufficient crust is determined to exist if, when the ball is dropped according to Section 223-2.10.C.1 the ball does not sink into the surface so that it is partially or fully surrounded by loose

grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible.

3. Drop the ball three times each in three representative test areas within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have passed if at least two of the three times the ball was dropped, the results met the criteria in Section 223-2.10.C.1. If all three test areas pass, the area shall be deemed to be “sufficiently crusted”.

D. Analysis of Air Samples: Analysis of all air samples shall follow the analytical method specified by the United States Environmental Protection Agency, Asbestos Hazard Emergency Response Act (AHERA) criteria for asbestos (40 CFR, Part 763 Subpart E, Appendix A, adopted October 30, 1987), with the following exceptions:

1. The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and
2. All asbestos structures with an aspect ratio greater than three to one (3:1) shall be counted irrespective of length.
3. The results of the analysis of air samples shall be reported as transmission electron microscopy (TEM) asbestos structures per cubic centimeter (s/cc).

E. Adequately Wetted: Field determination of “adequately wetted” shall be as follows:

1. If the district-approved asbestos dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved asbestos dust mitigation plan; or
2. If no moisture threshold is specified in a district-approved asbestos dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped.

**RULE 223-2 TABLE 1
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Construction And Other Earthmoving Activities)**

| Source Category | Control Measure | Guidance |
|--------------------------------|---|--|
| Backfilling | A1 Stabilize backfill material when not actively handling; <u>and</u> A2 Stabilize backfill material during handling; <u>and</u> A3 Stabilize soil at completion of activity. | <input type="checkbox"/> <input type="checkbox"/> Mix backfill soil with water prior to moving <input type="checkbox"/> <input type="checkbox"/> Dedicate water truck or high capacity hose to backfilling equipment. <input type="checkbox"/> <input type="checkbox"/> Empty loader bucket slowly so that no dust plumes are generated. <input type="checkbox"/> <input type="checkbox"/> Minimize drop height from loader bucket. |
| Clearing and grubbing | B1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; <u>and</u> B2 Stabilize soil during clearing and grubbing activities; <u>and</u> B3 Stabilize soil immediately after clearing and grubbing activities. | <input type="checkbox"/> <input type="checkbox"/> Maintain live perennial vegetation where possible. <input type="checkbox"/> <input type="checkbox"/> Apply water in sufficient quantity to prevent generation of visible dust. |
| Clearing forms | C1 Use water spray to clear forms; <u>or</u> C2 Use sweeping and water spray to clear forms; <u>or</u> C3 Use vacuum system to clear forms. | <input type="checkbox"/> <input type="checkbox"/> Use of high pressure air to clear forms may cause exceedance of Rule requirements. |
| Crushing | D1 Crushing asbestos containing material is expressly prohibited.. | |
| Cut and fill | E1 Pre-water soils prior to cut and fill activities; <u>and</u> E2 Stabilize soil during and after cut and fill activities. | <input type="checkbox"/> <input type="checkbox"/> For large sites, pre-water with sprinklers or water trucks and allow time for penetration. <input type="checkbox"/> <input type="checkbox"/> Use water as necessary to keep dust down. |
| Demolition – mechanical/manual | F1 Stabilize wind erodible surfaces to reduce dust; <u>and</u> F2 Stabilize surface soil where support equipment and vehicles will operate; <u>and</u> F3 Stabilize loose soil and demolition debris. | <input type="checkbox"/> <input type="checkbox"/> Apply water in sufficient quantities to prevent the generation of visible dust. |
| Disturbed soil | G1 Stabilize disturbed soil throughout the construction site; <u>and</u> G2 Stabilize disturbed soil between structures | <input type="checkbox"/> <input type="checkbox"/> Limit vehicular traffic and disturbances on soils where possible. <input type="checkbox"/> <input type="checkbox"/> If interior block walls are planned, install as early as possible. <input type="checkbox"/> <input type="checkbox"/> Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes. |

**RULE 223-2 TABLE 1
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Construction And Other Earthmoving Activities)**

| Source Category | Control Measure | Guidance |
|---------------------------------------|---|--|
| Earth-moving activities | H1 Pre-apply water; <u>and</u> H2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed <u>25</u> feet or beyond property line in any direction; <u>and</u> H3 Stabilize soils once earth-moving activities are complete. | <input type="checkbox"/> <input type="checkbox"/> Grade each project phase separately, timed to coincide with construction phase. <input type="checkbox"/> <input type="checkbox"/> Upwind fencing can prevent material movement on site. <input type="checkbox"/> <input type="checkbox"/> Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes. <input type="checkbox"/> <input type="checkbox"/> Suspend operations when winds generate visible dust emissions despite control measures |
| Importing/exporting of bulk materials | I1 Stabilize or adequately wet material while loading to reduce fugitive dust emissions; <u>and</u> I2 Maintain at least six inches of freeboard on haul vehicles traveling off-site; <u>and</u> I3 Stabilize or adequately wet material while transporting to reduce fugitive dust emissions; <u>and</u> I4 Stabilize material while unloading to reduce fugitive dust emissions. | <input type="checkbox"/> <input type="checkbox"/> Use tarps or other suitable enclosures on haul trucks. <input type="checkbox"/> <input type="checkbox"/> Comply with track-out prevention/mitigation requirements. <input type="checkbox"/> <input type="checkbox"/> Provide water while loading and unloading to reduce visible dust plumes. <input type="checkbox"/> <input type="checkbox"/> Maintain trucks and cargo compartments, to prevent any spillage of material. <input type="checkbox"/> <input type="checkbox"/> If excavated material is classified as a hazardous waste/material, off-site transport must comply with pertinent State and Federal rules and regulations. |
| Landscaping | J1 Stabilize soils, materials and slopes. | <input type="checkbox"/> <input type="checkbox"/> Apply water to materials to stabilize. <input type="checkbox"/> <input type="checkbox"/> Maintain materials in a crusted condition. <input type="checkbox"/> <input type="checkbox"/> Maintain effective cover over materials <input type="checkbox"/> <input type="checkbox"/> Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes <input type="checkbox"/> <input type="checkbox"/> Hydroseed prior to rainy season. |
| Road shoulder maintenance | K1 Apply water to unpaved shoulders prior to clearing; <u>and</u> K2 Apply chemical dust suppressants and/or other appropriate material in accordance with DOT specifications to maintain a stabilized surface after completing road shoulder maintenance. | <input type="checkbox"/> <input type="checkbox"/> Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs. <input type="checkbox"/> <input type="checkbox"/> Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs. |
| Staging areas | M1 Stabilize staging areas during use; <u>and</u> M2 Stabilize staging area soils at project completion. | <input type="checkbox"/> <input type="checkbox"/> Limit size of staging area. <input type="checkbox"/> <input type="checkbox"/> Limit vehicle speeds to 15 miles per hour. <input type="checkbox"/> <input type="checkbox"/> Limit number and size of staging area entrances/exists. |

RULE 223-2 TABLE 1
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Construction And Other Earthmoving Activities)

| Source Category | Control Measure | Guidance |
|---|--|--|
| Stockpiles/Bulk Material Handling | N1 Stabilize stockpiled materials. N2 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. | <input type="checkbox"/> <input type="checkbox"/> Add or remove material from the downwind portion of the storage pile. <input type="checkbox"/> <input type="checkbox"/> Maintain storage piles to avoid slides. |
| Traffic areas for construction activities | O1 Stabilize or maintain adequate moisture on all off-road traffic and parking areas; <u>and</u> O2 Stabilize or maintain adequate moisture on all haul routes; <u>and</u> O3 Direct construction traffic over established haul routes. | <input type="checkbox"/> <input type="checkbox"/> Apply gravel/paving to all haul routes as soon as possible to all future roadway areas. <input type="checkbox"/> <input type="checkbox"/> Barriers can be used to ensure vehicles are only used on established parking areas/haul routes. |
| Trenching | P1 Stabilize surface soils where trencher or excavator and support equipment will operate; <u>and</u> P2 Stabilize soils at the completion of trenching activities. | <input type="checkbox"/> <input type="checkbox"/> Pre-watering of soils prior to trenching is an effective preventive measure. <input type="checkbox"/> <input type="checkbox"/> Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment. |
| Truck loading | Q1 Material must be adequately wet prior to loading; <u>and</u> Q2 Freeboard must be 6 inches or greater (VCS 23114) | <input type="checkbox"/> <input type="checkbox"/> Empty loader bucket such that no visible dust plumes are created. <input type="checkbox"/> <input type="checkbox"/> Ensure that the loader bucket is close to the truck to minimize drop height while loading. |
| Unpaved roads/parking lots | S1 Stabilize soils to meet the applicable performance standards (Surface Crusting); <u>and</u> S2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots. | <input type="checkbox"/> <input type="checkbox"/> Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements. |

**RULE 223-2 TABLE 1
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Construction And Other Earthmoving Activities)**

| Source Category | Control Measure | Guidance |
|--|--|--|
| Vacant land | T1 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. | <input type="checkbox"/> <input type="checkbox"/> Installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures to prevent access to motor or off-road vehicles. |
| Onsite Disposal of asbestiform containing soils | U1 If possible, place excavated soils into fills constructed elsewhere on the project | <input type="checkbox"/> <input type="checkbox"/> Fills with NOA content equal to or greater than 1.0%, or when visually evident fibrous materials likely to be asbestos are present, in residential landscaping areas must be covered by at least 24 inches of clean fill <input type="checkbox"/> <input type="checkbox"/> Document location and quantities of fills |
| Offsite disposal of asbestiform containing soils | V1 Management and disposition of excavated soils transported offsite must be in accordance with federal, state and local regulations. | <input type="checkbox"/> <input type="checkbox"/> For excavated soils transported offsite, information per Rule 223-2.6.D.3. <u>must</u> be documented by owner/operator and retained for a period of 3 years. |
| Post Construction Stabilization of Disturbed Areas | W1 Must be completed no later than 30 days following completion of the project. | <input type="checkbox"/> <input type="checkbox"/> Establishment of vegetative cover; <u>or</u> <input type="checkbox"/> <input type="checkbox"/> Placement of at least 3 inches of clean fill, <input type="checkbox"/> <input type="checkbox"/> Placement of a total of at least 12 inches, or maximum depth of irrigation improvements, whichever is higher, of clean fill in residential landscaping areas with NOA greater than 0.25%; <u>or</u> <input type="checkbox"/> <input type="checkbox"/> Paving, Foundations, Retaining Walls; <u>or</u> <input type="checkbox"/> <input type="checkbox"/> Other measures as approved by APCO. |
| Signage | X1 Post Warning Signs at the main entrance to the project for the duration of soil disturbance activities | <input type="checkbox"/> <input type="checkbox"/> Signs to be in compliance with current OSHA requirements <input type="checkbox"/> <input type="checkbox"/> Proposition 65 (H&S Code 25249.5-25249.13) may apply |

RULE 223-2 TABLE 2
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Bulk Material Handling)

| Source Category | Control Actions |
|---|---|
| Handling Of Bulk Materials | A1 When handling bulk materials, apply water or chemical/organic stabilizers/suppressants; |
| Storage of Bulk Materials | B1 When storing bulk materials, comply with the conditions for a stabilized surface; <u>or</u> B2 Cover bulk materials stored outdoors with tarps, plastic or other suitable material and anchor in such a manner that prevents the cover from being removed by wind action; <u>or</u> B3 Construct and maintain wind barriers with less than 50% porosity. If utilizing fences or wind barriers, apply water or chemical/organic stabilizers/suppressants; <u>or</u> B4 Utilize a 3-sided structure with a height at least equal to the height of the storage pile and with less than 50% porosity. |
| On-Site Transporting of Bulk Materials | C1 Limit vehicular speed while traveling on the work site; <u>or</u> C2 Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported across any paved public access road; <u>or</u> C3 Apply water to the top of the load; <u>or</u> C4 Cover haul trucks with a tarp or other suitable cover. |
| Off-Site Transporting of Bulk Materials | D1 Clean the interior of the cargo compartment or cover the cargo compartment before the empty truck leaves the site; <u>and</u> D2 Material must be adequately wet prior to loading; <u>and</u> D3 Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides and/or tailgate; <u>and</u> D4 Load all haul trucks such that the freeboard is not less than six (6) inches when material is transported on any paved road, and apply water to the top of the load; or cover haul trucks with a tarp or other suitable cover. D5 If excavated material is classified as a hazardous waste/material, off-site transport must comply with pertinent State and Federal rules and regulations. |
| Outdoor Transport Of Bulk Materials With A Chute Or Conveyor: | E1 Fully enclose the chute or conveyor; <u>or</u> E2 Operate water spray equipment; <u>or</u> E3 Wash separated or screened materials to remove conveyed materials having an aerodynamic diameter of 10 microns or less. |

RULE 223-2 TABLE 3
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Removal and Prevention of Trackout)

| Source Category | Control Actions |
|---|--|
| Removal of Trackout Material | A1 Manually wet sweeping and picking-up; <u>or</u> A2 Operating HEPA filter equipped vacuum device; <u>or</u> A3 Flushing with water, where the use of water will not result in adverse impacts on storm water drainage systems or violate any National Pollutant Discharge Elimination System permit program; <u>and</u> A4 <u>The use of blower devices, or dry rotary brushes or dry brooms is expressly prohibited.</u> |
| Frequency of Trackout Material Removal | B1 Visible trackout must be immediately removed from paved public roads; <u>and</u> B4 On interior paved roads trackout must be removed at least once per workday. |
| Trackout Prevention for Large Operations or Sites with more than 150 vehicle trips/day. | C1 Installation of grizzlies, or similar devices designed to remove dirt/mud from tires; <u>or</u> C2 Installation of gravel pad; <u>or</u> C3 Paving of interior roads. |

**RULE 223-2 TABLE 4
BEST MANAGEMENT PRACTICE FOR ASBESTOS DUST MITIGATION
(Blasting Activities)**

| Source Category | Control Measure | Guidance |
|--|--|---|
| Site Preparation (drilling, setting charges, burial of charges) | A1 Reduce dust from drilling operation A2 Pre-wet blast area A3 Cover charges to minimize dust | <input type="checkbox"/> <input type="checkbox"/> Control rate of drilling <input type="checkbox"/> <input type="checkbox"/> Apply water fog <input type="checkbox"/> <input type="checkbox"/> Place blast mats over charges <input type="checkbox"/> <input type="checkbox"/> Place soil mounds over charges <input type="checkbox"/> <input type="checkbox"/> Wet entire area prior to blasting |
| Blasting activities | B1 Dust cannot exceed 25 ft or cross the project property line | <input type="checkbox"/> <input type="checkbox"/> Conduct blasting on calm days <input type="checkbox"/> <input type="checkbox"/> Consider wind direction with respect to your property line, nearby residences and other receptors. |
| Post-Blasting Activities | C1 Follow Best Management Practices for all construction activities (Table 223-2, Table 1) | |

**RULE 223-2 TABLE 5
DUST CONTROL MEASURES FOR LARGE OPERATIONS**

| Source Category | Control Actions |
|---|--|
| Earth-moving (except construction cutting and filling areas, and mining operations) | <p>A1 Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Air Pollution Control Officer. 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; <u>or</u></p> <p>A2 For any earth-moving which is more than 25 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 25 feet in length in any direction. Visible emissions must not extend beyond property boundary.</p> |
| Earth-moving: Construction fill areas: | <p>B1 Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Air Pollution Control Officer. 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 Air Pollution Control Officer 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.</p> <p>B2 For any earth-moving which is more than 25 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 25 feet in length in any direction. Visible emissions must not extend beyond property boundary.</p> |
| Earth-moving: Construction cut areas | <p>C1 Conduct watering as necessary to prevent any visible emissions from extending beyond property boundary.</p> |
| Disturbed surface areas: (except completed grading areas) | <p>D1 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.</p> |
| Disturbed surface areas: Completed grading areas | <p>E1 Apply chemical stabilizers within five working days of grading completion; <u>or</u></p> <p>E2 Take actions F1 or F3 specified for inactive disturbed surface areas.</p> |

**RULE 223-2 TABLE 5
DUST CONTROL MEASURES FOR LARGE OPERATIONS**

| Source Category | Control Actions |
|----------------------------------|--|
| Inactive disturbed surface areas | <p>F1 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; <u>or</u></p> <p>F2 Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; <u>or</u></p> <p>F3 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; <u>or</u></p> <p>F4 Utilize any combination of control actions F1, F2 and F3 such that, in total, these actions apply to all inactive disturbed surface areas.</p> <p>F5 Establishment and maintenance of surface crusting sufficient to satisfy the test in Section 223-2.10.C</p> <p>F6 Approved mixture of tackifier and fiber mulch, applied per manufacturer's recommendation.</p> |
| Unpaved Roads | <p>G1 Water all roads used for any vehicular traffic at least once per every two hours of active operations or as often as necessary; <u>or</u></p> <p>G2 Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface; <u>and</u></p> <p>G3 Restrict vehicle speeds to 15 miles per hour;</p> |
| Open storage piles | <p>H1 Apply chemical stabilizers; <u>or</u></p> <p>H2 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; <u>or</u></p> <p>H3 Install temporary coverings; <u>or</u></p> <p>H4 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.</p> |
| All Categories | <p>I1 Any other control measures approved by the Air Pollution Control Officer as equivalent to the methods specified in Table 5 may be used.</p> |

RULE 223-2 TABLE 6
CONTINGENCY DUST CONTROL MEASURES FOR LARGE OPERATIONS

| Source Category | Control Actions |
|-------------------------|---|
| Earth-moving | <p>A1 Cease all active operations except for dust mitigation activities; or</p> <p>A2 Apply water to soil not more than 15 minutes prior to moving such soil; <u>and</u></p> <p>A3 Apply water during soil moving or disturbance operations.</p> |
| Disturbed surface areas | <p>B1 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; <u>or</u></p> <p>B2 Apply chemical stabilizers prior to wind event; <u>or</u></p> <p>B3 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; <u>or</u></p> <p>B4 Take the actions specified in Table 5, control action F3; <u>or</u></p> <p>B5 Utilize any combination of control actions B1, B2 and B3B such that, in total, these actions apply to all disturbed surface areas.</p> |
| Unpaved roads | <p>C1 Apply chemical stabilizers prior to wind event; <u>or</u></p> <p>C2 Apply water twice per hour during active operation; <u>or</u></p> <p>C3 Stop all vehicular traffic, except for dust mitigation equipment.</p> |
| Open storage piles | <p>D1 Apply water twice per hour; <u>or</u></p> <p>D2 Install temporary coverings.</p> |
| Bulk Material Transport | <p>E1 Cover all haul vehicles; <u>or</u></p> <p>E2 Freeboard must be 6 inches or greater (VCS 23114)</p> |
| All Categories | <p>F1 Any other control measures approved by the Air Pollution Control Officer as equivalent to the methods specified in Table 6 may be used.</p> |