

Dust Control in the South Coast AQMD

South Coast AQMD

South Coast AQMD



Working
together
for Clean
Air



South Coast AQMD

- Enforcement Authority

- South Coast Air Quality Management District is the air pollution control agency for the urban portions of Los Angeles, Riverside and San Bernardino Counties and all of Orange County.
- South Coast AQMD was created in 1977 by the state Legislature to carry out the federal Clean Air Act and state air quality programs previously handled by an APCD in each of South Coast AQMD's four counties.
- South Coast AQMD's purpose is to develop and enforce air pollution regulations to ensure that the air quality will meet federal and state air quality standards.



MOJAVE DESERT AIR BASIN

ANTELOPE VALLEY APCD

Barstow ■

■ Apple Valley

Victorville ■

■ Hesperia

■ Twentynine Palms

Yucca Valley ■



*Not Shown: San Clemente Island

Key Terms

- **Fugitive Dust**

- 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

- **PM10**

- Particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by applicable State and Federal reference test methods.

- **Opacity**

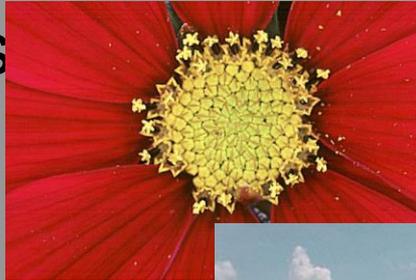
- A way to describe the density of a plume or smoke
- Degree to which light transmission through the diameter of a plume is reduced
- Degree to which visibility of a background viewed through the plume is obscured



Particulate Matter (PM10 & PM2.5)

- Natural sources

- Pollen
- Wildfires
- Volcanic ash
- Windblown dust



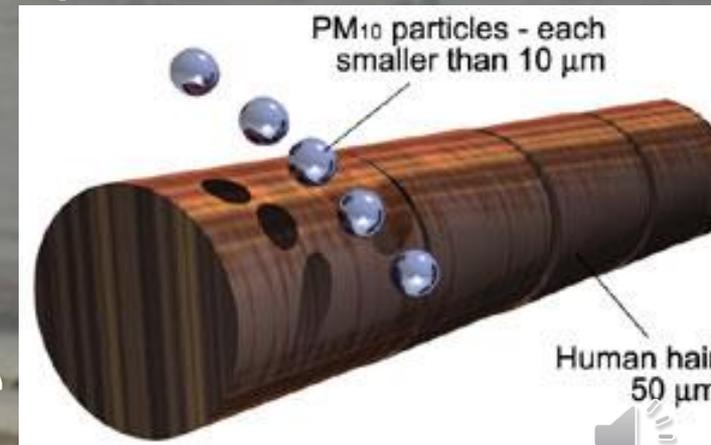
- Human-made sources

- Combustion of petroleum products
 - Power plants & industry
 - Vehicles
- Fugitive dust
 - Uncontrolled industrial operations
 - Disturbance of earth's surface



What Is PM10 & It's Effects?

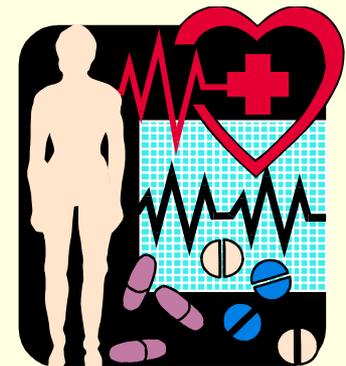
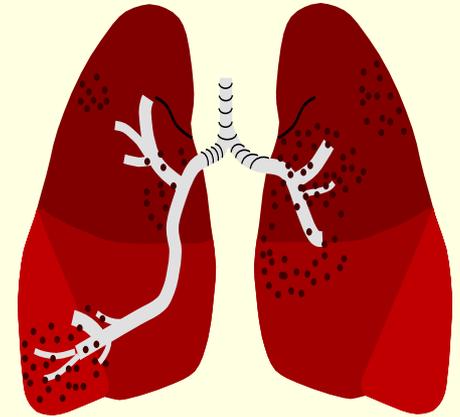
- Fine particulate matter less than 10 microns in diameter
 - *1/8 the diameter of a human hair*
- Associated with increased rates of illness and death
 - *Small particles can by-pass the body's protective measures and lodge deep in the lungs*
- High-risk groups
 - *Children*
 - *Elderly*
 - *People with a respiratory disease*



Dust control is essential...

- To reducing health risks
- To meet health standards

*Health-based PM10 standards
established by US EPA*



Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards
		Concentration	
Particulate Matter PM ₁₀	Annual	20 µg/m ³	Revoked ⁽¹⁾
	24 hr	50 µg/m ³	150 µg/m ³
Particulate Matter PM _{2.5}	Annual	12 µg/m ³	15 µg/m ³
	24 hr	-----	35 µg/m ³

⁽¹⁾ Due to lack of evidence linking health problems to long-term exposure to coarse pollution, the agency revoked the annual PM₁₀ standard in 2006 (effective December 17, 2006).



Rule 403. Fugitive Dust

- Purpose
 - 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.



Rule 403. Fugitive Dust

- Applicability
 - To any activity or man-made condition capable of generating fugitive dust.
- Definitions
 - Applicable for the purpose of this RULE



Rule 403(d)(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 exceed 20% opacity as the result of movement of a motorized vehicle*.

* Intermittent emissions method applies.

8 6 '02



Rule 403

Rule 403

"Active Operations"



Rule 403(d)(2)

No person shall conduct “active operations” without utilizing the applicable Best Available Control Measures to minimize fugitive dust emissions from each fugitive dust source type within the active operation. (All Sites)



Activities of Man

Active operations...

Any source capable of generating fugitive dust:

1. Earth-Moving Activities
2. Construction/Demolition Activities
3. Heavy & Light duty Vehicular Movement
4. Disturbed Surface Area



Earth-Moving

- Use of any equipment where soil is being moved or uncovered:
 - 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



CONSTRUCTION/DEMOLITION

- 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



Heavy & Light duty Vehicular Movement



Disturbed Surface Area

- Surface that has been physically moved, uncovered, destabilized, or otherwise modified EXCEPT areas which have:



- Soil restored to a natural state
- Paved or otherwise covered by a permanent structure
- Sustained vegetative ground cover over 70% of the native cover for at least 30 days

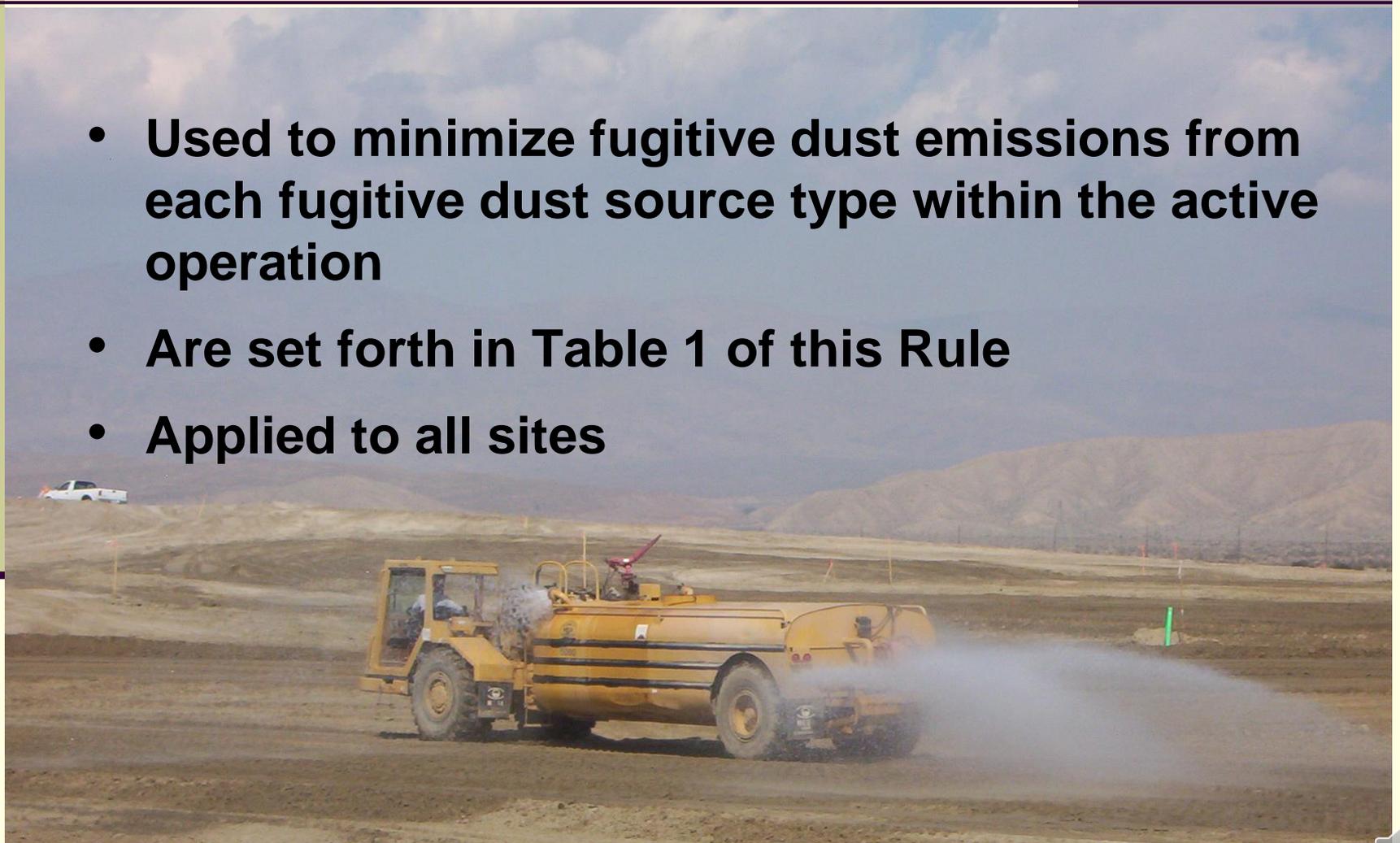






Best Available Control Measures (BACM)

- Used to minimize fugitive dust emissions from each fugitive dust source type within the active operation
- Are set forth in Table 1 of this Rule
- Applied to all sites



Dust Control Sample Table 1

Source Category		Control Measure	Guidance
Earth-moving activities	08-1	✓Pre-apply water to depth of proposed cuts; and	✓Grade each project phase separately, timed to coincide with construction phase
	08-2	✓Re-apply water as necessary to maintain soils in a damp condition; and	✓Upwind fencing can prevent material movement on site
	08-3	✓Stabilize soils once earth-moving activities are complete.	✓Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes



Dust Control Sample Table 1

Source Category		Control Measure	Guidance
Importing/ exporting of bulk materials	09-1	✓ Stabilize material while loading to prevent fugitive dust emissions; and	✓ Use tarps or other suitable enclosures on haul trucks
	09-2	✓ Maintain at least six inches of freeboard on haul vehicles; and	✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage
	09-3	✓ Stabilize material while transporting to prevent fugitive dust emissions; and	✓ Comply with track-out prevention/mitigation requirements
	09-4	✓ Stabilize material while unloading to prevent fugitive dust emissions; and	✓ Provide water while loading and unloading to prevent visible dust plumes
	09-5	✓ Comply with Vehicle Code Section 23114.	



BACM



Rule 403(d)(3)

- No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when measured over a 5 hour period



Levels are determined weighing by the difference between upwind & downwind samples trapped in the high volume particulate filters over a 5 hour period



Rule 403(d)(4)

- No person shall allow track-out to extend 25 ft. or more in cumulative length from the point or origin from an active operation (No grace period)
- All track-out shall be removed at the conclusion of each workday or evening shift



Rule 403(d)(5)

- An active operation with a disturbed surface area of ≥ 5 acres, or daily imports or exports of >100 cubic yards of bulk material:
 - Must utilize at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress:



Rule 403(d)(5)

(Continued)

(A) Install a 30 x 50 ft. gravel pad at least 6" deep with at least 1" diameter rocks

(B) Pave the surface 100 ft. L x 20 ft. W

(C) Utilize a wheel shaker/wheel spreading device 10 x 24 ft

(D) Install and utilize a wheel washing system

(E) Other approved control measures equivalent to the actions in subparagraphs (d)(5)(A) through (d)(5)(D).







TW

TW

MI AUTO BILLS
www.miauto.com
7F22719
FORD FORD LINCOLN MERCURY



0001/00/00



Vehicle Egress 403(d)(5)



Confined Animal Facilities 403(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.

TABLE 4

- **Manure Handling (poultry)** - drying & removal
- **Feedstock Handling** - sock on feed auger
- **Disturbed Surfaces** - vegetation
- **Unpaved Roads** - suppressants
- **Equipment Parking Areas** - suppressants



Large Operations

*≥ 50 acres of disturbed
surface area or*

*Throughput volume of ≥ 5K
cubic yards ≥ 3 times in last
365 days*



Rule 403 (e) (1)

BACM for Large Operations

Additional Requirements for conducting or authorizing a **Large Operation***

- Implement Table 2 applicable actions at all times and those in Table 3 when the performance standards can not be met through use of Table 2; and

* Any active operation or property ≥ 50 acres of disturbed surface area; or any earth-moving operation with daily earth-moving or throughput volume 5K cubic yards or more three times during the most recent 365-day period.



Dust Control Sample Table 2 vs. Table 3

Page 2-20

compared to

Page 2-23

Source Category	Table 2 Control Measure		Table 3 Control Measure	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	✓ Maintain soil moisture content at a minimum of 12 percent, OR	(1A)	✓ Cease all 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.	(2A)	✓ Apply water to soil not more than 15 minutes prior to moving such soil.



Dust Control Sample Table 2 vs. Table 3

Page 2-21

compared to

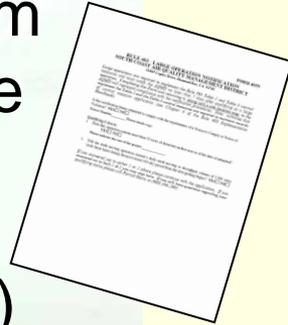
Page 2-23

Source Category	Table 2 Control Measure		Table 3 Control Measure	
Disturbed Surface areas (except completed grading areas)	(2a/b)	<p>✓ 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>	(0B)	<p>✓ On last day of active operations prior to a weekend or other ≤ 4 days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of concentration required to maintain a stabilized surface for a period of six months: OR</p> <p>(1B) ✓ Apply chemical stabilizers prior to wind event: OR</p> <p>(2B) ✓ Apply water to all unstabilized disturbed areas 3 times per day 4 if still dust blowing.</p> 

Rule 403 (e) (1)

Administrative Requirements

- (A) Submit a Large Operation Notification (Form 403 N) within 7 days of qualifying as a large operation;
- (B) Include contact information of the person(s) responsible including a site map
- (C) Maintain daily records for no less than three years;
- (D) Install and maintain project signage prior to initiating any earthmoving activities;



Got Signs?



Construction Signage

Purpose

Allow the public to contact the responsible party



SIGNAGE GUIDELINES

	Project size	Over 50 Acres
	Sign size	48" x 96"
Permit # (if applicable)		4"
Site Name		4"
Project Name / Tract #####		4"
IF YOU SEE DUST COMING FROM		4"
THIS PROJECT CALL:		4"
Name, Phone Number (XXX) XXX-XXXX		6"
If you do not receive a response, Please call		3"
The South Coast AQMD at 1-800-CUT-SMOG		3"
		3"

- ✓ Located within 50 feet of each project site entrance
- ✓ No more than four (4) signs required
- ✓ One (1) sign for multiple entrances located within 300 yards of each other
- ✓ Minimum text height as shown on template
- ✓ Sign background must contrast with lettering
- ✓ Sign should be 1" A/C laminated plywood board
- ✓ Sign board lower edge 6' min and 7' max above grade
- ✓ Telephone # listed must be local or toll-free and accessible 24 hrs per day



Rule 403 (e) (1)

(Continued)

(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 full authority to expeditiously employ mitigation measures;
- (iv) has been issued a valid Certificate of Completion for the South Coast AQMD class; and

(F) notify South Coast AQMD in writing (403C) within 30 days of no longer qualifying as a large operation



Rule 403 (e) (2)

- Large Operation Notifications or South Coast AQMD-approved dust control plan (Form 403N, page 3-3)
 - Valid for a period of one year
 - Large Operation Notifications must be resubmitted annually at least 30 days prior to the expiration date
 - The resubmittal may be a simple statement of no-change (Form 403NC).



Rule 403 (f)

(f) Compliance Schedule

- Amended provisions of this rule become effective upon adoption.
- Existing sites that qualify as large operations have 60 days to comply with the notification and recordkeeping requirements.
- Prior approved Large Operation Notification or plans shall remain in effect.
- Annual resubmittal date shall be one year from adoption of this Rule amendment (April).



EXEMPTIONS



Rule 403 (g)–Exemptions

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

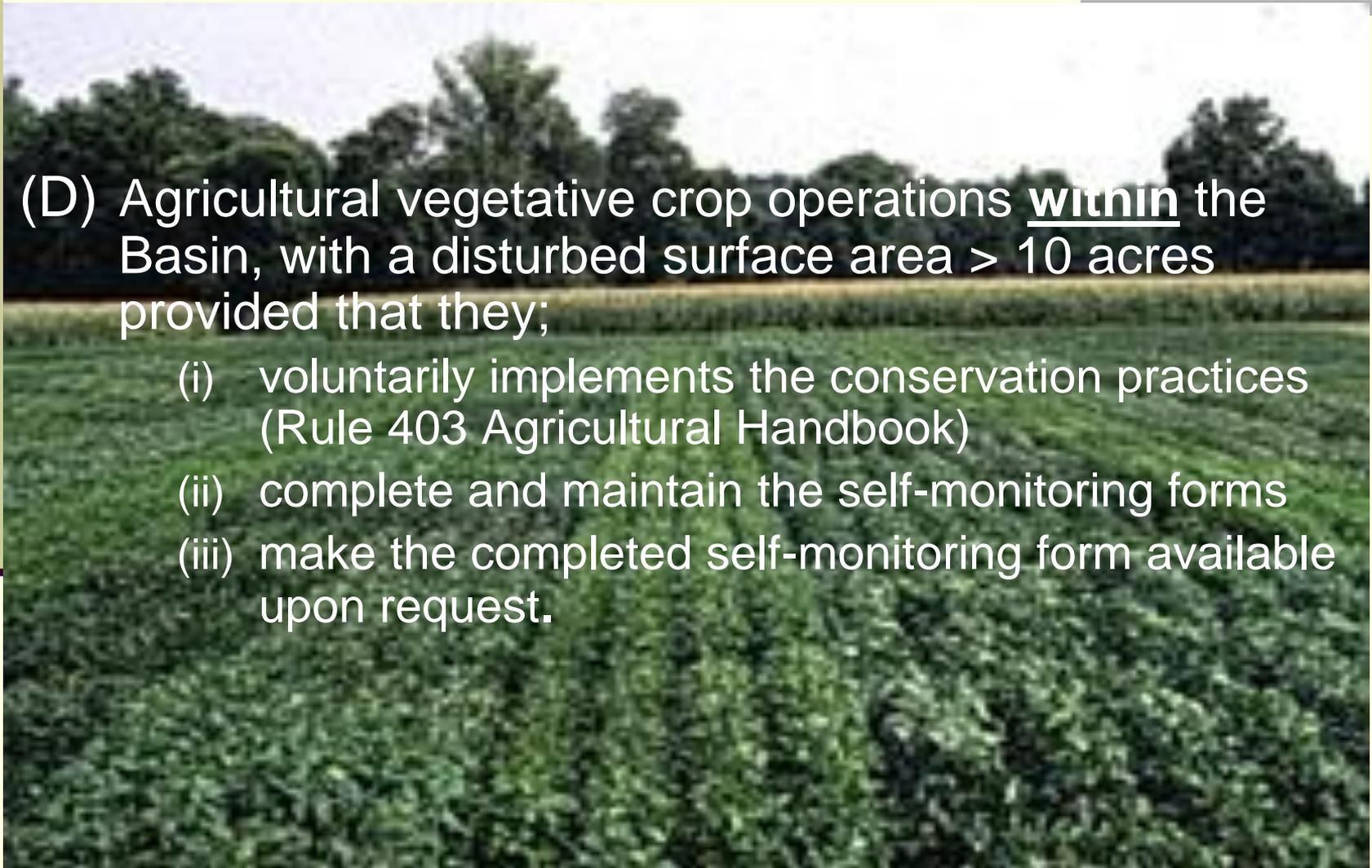
(A) Dairy farms (see rule 1127)

(B) Confined animal facilities < 1 acre disturbed

(C) Agricultural vegetative crop operations under 10 acres disturbed.



Rule 403 (g)–Exemptions

- 
- (D) Agricultural vegetative crop operations within the Basin, with a disturbed surface area > 10 acres provided that they;
- (i) voluntarily implements the conservation practices (Rule 403 Agricultural Handbook)
 - (ii) complete and maintain the self-monitoring forms
 - (iii) make the completed self-monitoring form available upon request.



Rule 403 (g) – Exemptions

(Continued)

(F) Emergency life-threatening or declared disaster or state of emergency

(G) Service utilities or service outages and emergency disruptions

(H) Any contractor subsequent to the time the contract ends, that implemented required control measures



Rule 403 (g) – Exemptions

(Continued)

(I) Any grading contractor, for a phase of active operations, that implemented required control measures 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.

(K) Sandblasting operations. (see rule 1140)



Rule 403 (g) – Exemptions

(Continued)

(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) Table 3 contingency measures are implemented for each fugitive dust type, and;
- (ii) records are maintained

(and a wind monitor on site verifies wind speed)



Rule 403 (g) – Exemptions

(Continued)

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



(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;
 - (b) are within 25 feet of the property line; and
 - (c) have a traffic volume less than 20 vehicle-trips per day.



Other Applicable South Coast AQMD Rules and Vehicle Codes...

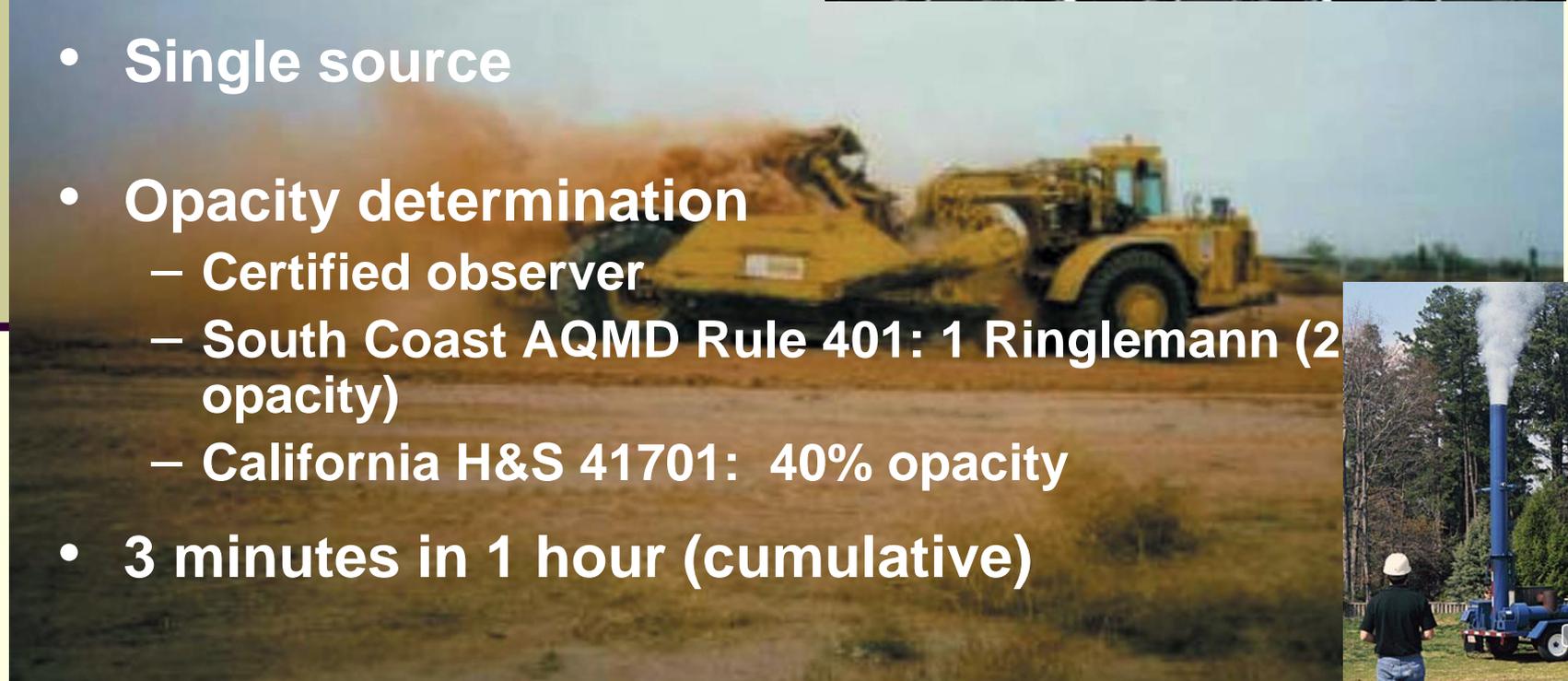
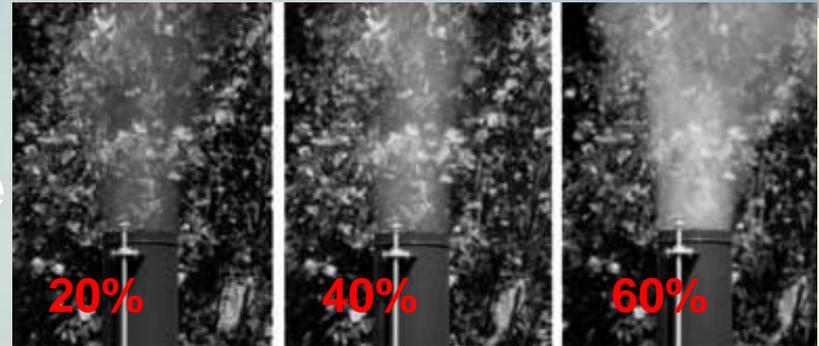
- **Rule 401**
Visible Emissions (H/S 41701)
- **Rule 402**
Public Nuisance (H/S 41700)
- **California Vehicle code Section 23114**
- **Rules 201/203—Permit to Construct/Operate**
- **PERP (Portable Equipment Registration Program)**
- **Rule 403.2**



South Coast AQMD Rule 401—Visible Emissions

California Health & Safety Code Sec 41701

- Emissions DO NOT have to cross property line
- Single source
- Opacity determination
 - Certified observer
 - South Coast AQMD Rule 401: 1 Ringlemann (2 opacity)
 - California H&S 41701: 40% opacity
- 3 minutes in 1 hour (cumulative)



South Coast AQMD Rule 402—Public Nuisance

California Health & Safety Code Sec 41700

- Considerable number of people (persons/public minimum of 6 complaints/one complaint per household)
- Causing injury, detriment, nuisance, annoyance
- Endangering comfort, repose, health or safety
- Natural tendency to cause injury/damage to business/property



Vehicle Code 23114

- Cover all haul vehicles; or
- Comply with vehicle freeboard requirements* for both public and private roads



* *California Vehicle Code Section 23114*



RULE 201: Permit to Construct

RULE 203: Permit to Operate

- **Rule 201**

- A person shall not build, erect, install, alter or replace any equipment or agricultural permit unit...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...granted or denied, or the application is canceled.

- **Rule 203**

- (a) A person shall not operate or use any equipment or agricultural permit unit...without first obtaining a written permit to operate from the Executive Officer or except as provided in Rule 202.
- (b) The equipment or agricultural permit unit shall not be operated contrary to the conditions specified in the permit to operate.



Portable Equipment Registration Program (PERP)

- Engines and engine-driven equipment greater than 50 bhp
 - South Coast AQMD permit or CARB registration
 - Electrical generators, woodchippers, compressors, pumps and cranes
 - Portable equipment **can not** remain at a single location for more than 12 months
 - Rental Equipment
 - Notification requirements

<http://www.arb.ca.gov/portable/perp/perp.htm>



Rule 403.2 – Fugitive Dust From Large Roadway Projects

- What are Large Roadways
 - “Interstates” or “Other Freeways or Expressways” per the Federal Highway Administration
- What is a Large Roadway Project
 - Onsite activities for the construction/demolition of a large roadway, including any adjacent bridge, overpass, or onramp/offramp



Rule 403.2 – Applicability

- **Projects associated with interstates and freeways that are within 1,000 feet of rule-specified receptors**
 - Area of Public Exposure: Commercial, industrial, recreational land uses
 - Sensitive Receptor: Homes, schools, hospitals, day cares, nursing homes
- **Project examples:**
 - Aggregate crushing and grinding activities taking place on the side of an interstate or freeway
 - Freeway expansion
 - New bridge or remodel



Requirements – Effective December 3, 2022

- **(d)(1) - No aggregate crushing and grinding operations within 100 feet of an area of public exposure or 250 feet of a sensitive receptor, unless**
 - A water misting dust control system is used
 - Materials crushed are generated from the same project
 - Any material piles are covered, or an equivalent method of dust control is used



Requirements - continued

- (d)(2) – Projects within 500 feet of an area of public exposure or 1,000 feet of a sensitive receptor shall:
 - **Have a Dust Control Supervisor**
 - **Follow Table 1 Control Measures**
 - **Install Signage**
 - **Submit Notification**
 - **Maintain Records**



Dust Control Supervisor (e)(1)

- Is employed by the large roadway project;
- Is available onsite within 30 minutes during working hours;
- Has a valid South Coast AQMD Fugitive Dust Control Class Certificate of Completion; and
- Is responsible for responding to air quality issues for the large roadway project



Table 1 Control Measures (e)(2)

Dust from Construction Roads	Vehicle speeds 15 mph or less on unpaved roads Water unpaved roads within project perimeter every two hours during work hours, or Apply a chemical stabilizer
Material piles	30 feet in height or less Apply dust suppressant to stabilize the pile; or Cover pile; or Install a 3-wall enclosure equal to the height of the pile

***In addition to all other control measures (e.g., Rules 403, 403.1, 1157)**



Signage (e)(3)

Sign Content	Height (inches)
Site or Project Name	4
IF YOU SEE DUST COMING FROM THIS PROJECT CALL	4
Name, Phone Number (###) ##-####	6
If you do not receive a response, please call South Coast AQMD at 1-800-CUT-SMOG	3

- At least one sign within 50 feet of the project entrance and visible to closest area of public exposure
- Sign size shall be 4 feet tall by 8 feet wide
- 6 to 7 feet above ground
- Phone number of the Dust Control Supervisor



Notification (f)

- To be provided at least 5 business days prior to a large roadway project to:
 - South Coast AQMD
 - Addresses of sensitive receptors and areas of public exposure within 1,000 feet of the work site
- Shall include the following information:
 - Dust control supervisor contact information including name, company/agency name, address, telephone number, and e-mail address; and
 - Location of the large roadway project, including address and/or coordinates, and a map depicting the location of the site; and
 - Estimated duration of the project including start and completion dates



Recordkeeping (g)

- Daily records of the following:
 - Activity of equipment with the potential to generate dust and the control measures for each activity
 - Frequency of the control measures taken (e.g., dust suppressant)
 - Purchase records/invoices for dust suppressants
- Copy of the notification letter, method of delivery, and proof of mail service or electronic delivery
- Maintain records for 3 years
 - *Consistent with Rule 403 Large Operations



Exemptions (h)

- Emergency or essential operations
- Linear trenching for utility projects
- Maintenance of berms for stormwater
- Diamond grinding or other texture planing of road surfaces with self-contained dust controls
- Minor maintenance activity is exempt from signage and notification (e.g., crack filling, pothole repair, etc.)
- Roadside Fire Fuels Reduction activities implemented by Caltrans Fire Safety Crews



Air Pollution Violations

Violation Notices

Criminal and Civil penalties are designed according to the State of California Health and Safety Codes, starting with Section 42400

Consequently, violations of South Coast AQMD rules and regulations are considered misdemeanors.

- Notices of Violation Resolution Avenue
 - Minor Source Penalty Assessment Program (MSPAP)
 - Civil Prosecution
 - Referral for Criminal Prosecution



Air Pollution Violations

A Guide to California Health & Safety Code Penalty Sections

Violation	Criminal Penalties	Civil Penalties
General Violations (Strict Liability)	42400	42402
Negligence	42400.1(a)	42402.1(a)
Actual Injury	42400.1(b)	42402.1(b)
Failure to Take Corrective Action	42400.2(a)	42402.2(a)
Documentation Falsification	42400.2(c)	42402.2(b) & 42402.4
Actual Injury	42400.2(d)	42402.2(c)
Willfully and Intentionally Emitting Air Contaminants	42400.3	42402.3
Toxic Air Contaminants, General Violations	42400.3.5(a)	
Toxic Air Contaminants, Renders Inaccurate Any Monitoring Device	42400.3.5(b)	
Toxic Air Contaminants, Documentation Falsification	42400.3.5(b) & (c)	
Violating Emissions Cap (Strict Liability)		42402(b)(1) & (2)(C)
Considerations by the Court in Determining Fine / Penalty	42400.8	42403



Air Pollution Violations

- Order for Abatement
 - South Coast AQMD enforcement staff determines that ongoing or repeated violations are likely
 - Stop the company from operating out of compliance
 - Impose additional conditions
 - Examples of **Order for Abatement Conditions** that may be enforced at a site:
 - Maintain **3** 12000 gallon Water Towers on site
 - Maintain eight 4000 gal water trucks on site
 - Water all unpaved roads every 2 hours
 - Install Wind Fencing & remove buildup > 1 foot
 - Install Wind Monitoring
 - Use 6-Month chemical stabilizers



Air Pollution Violations

- Variance
 - Continuous operation of equipment that is in violation for reasons beyond YOUR control
 - An administrative order to continue operating without penalties
 - Only South Coast AQMD Hearing Board can grant a Variance



South Coast AQMD'S CONTROL OF FUGITIVE DUST

Report dust complaints **IMMEDIATELY!**



Call South Coast AQMD toll-free at

1-800-CUT-SMOG

(1-800-288-7664)

REMEMBER...CLEAN AIR IS EVERY *BODY'S* BUSINESS!



South Coast AQMD Fugitive Dust Program Contacts

- **Peter Campbell** (909) 396-3185
Air Quality Inspector III pcampbell@aqmd.gov
- **Heidee Dela Cruz** (909) 396-2176
Air Quality Inspector III hdelacruz@aqmd.gov
- **Dust Hotline** (866) 861-3878
rule403notifications@aqmd.gov dustcontrol@aqmd.gov

South Coast AQMD Toll-Free Complaint Hotline
(800) 288-7664 (1-800-CUT-SMOG)



South Coast AQMD Rule 403 Class

